Built on a foundation of pathologist expertise, the College of American Pathologists partners with laboratories worldwide to elevate the quality of laboratory medicine with best-in-class solutions designed to drive operational excellence, achieve diagnostic confidence, and ensure the best patient care.

- Choose from more than 700 programs across 16 disciplines, including a comprehensive genetics and molecular pathology portfolio.
- Learn about new programs that enable you to compare multiple testing platforms for respiratory illnesses, assess your staff’s technical competency for body fluid review, and ensure optimal performance of cardiac evaluation assays with calibration verification and linearity for high-sensitivity Troponin I.
- Get connected to direct transmission for faster and more accurate PT/EQA result reporting.
- Offer your entire staff more than 100 CE credits included in CAP PT/EQA programs.

PLACE YOUR 2023 ORDER TODAY.

Surveys and Anatomic Pathology Education Programs

2023

Performance you can measure. Accuracy you can trust.
Take Pride in Your Perseverance

As a medical laboratory professional, it’s always taken a certain amount of persistence to do what you do.

But lately, faced with a seemingly endless array of challenges—supply chain issues, staffing shortages, ongoing global pandemics—it requires even more devotion on your part. Your dedication to high-quality patient care, and to unshakable accuracy, is nothing short of inspiring.

In fact, your day-in, day-out perseverance is what drives us to partner with laboratory professionals around the globe, tapping into the expertise of the world’s largest organization of board-certified pathologists. Your efforts motivate us to elevate the quality of laboratory medicine by designing best-in-class solutions that will help you achieve operational excellence and diagnostic confidence.

As you continue to model tenacity and dedication—maintaining consistency and accuracy in the laboratory—we vow to be just as tenacious. To join you. To keep developing premium proficiency testing and external quality assessment (PT/EQA) programs, quality improvement solutions, protocols, and guidelines.

Together we can take pride in our tireless endeavor to achieve the best outcomes for patients.

Challenges documenting your competency assessment records?

Whether for a single laboratory or an entire network, Competency Assessment Hub offers an easy solution. CLIA requirements for your staff and operations don’t change: if it’s not documented at inspection time, it’s considered a deficiency. The CAP offers the new Competency Assessment Hub to help you align and document your competency assessment plan and avoid the deficiency.

- Coverage for all records, whether for an entire network or a single laboratory
- Library of 67 courses in 11 laboratory disciplines to provide needed continuing education (CE) credits for staff
- Hundreds of prewritten questions to customize assessments for your laboratory
- Online tools to build assessments, courses, and profiles that align with your written procedures

Add the appropriate Competency Assessment Hub subscription to your order.
# Table of Contents

2023 Surveys and Anatomic Pathology Education Programs

1 New Developments ........................................... 3-6

2 Continuing Education ........................................ 7-22
   Continuing Education Programs ....................... 8
   Competency Assessment Hub .......................... 16
   QMed™ Online Educational Courses ................. 19

3 Quality Management Tools ............................... 23-38
   Quality Management Tools ............................. 24
   Short-Term Quality Studies and Competency Assessments ..... 26
   Continuous Quality Monitors ......................... 31

4 Quality Cross Check .................................... 39-52

5 Point-of-Care Programs ................................. 53-56

6 General Chemistry and Therapeutic Drug Monitoring ....... 57-84
   General Chemistry and Therapeutic Drug Monitoring .... 58
   Urine Chemistry ......................................... 72
   Special Chemistry ........................................ 75

7 Endocrinology .............................................. 85-94

8 Blood Gas, Critical Care, and Oximetry .................... 95-98

9 Toxicology .................................................. 99-114

10 Accuracy-Based Programs .................................. 115-120
   Accuracy-Based Programs .............................. 116
   Validated Materials ...................................... 120

11 Instrumentation Verification Tools ...................... 121-138
   Calibration Verification/Linearity ..................... 122
   Instrumentation Quality Management Programs ........... 136

12 Hematology and Clinical Microscopy .................... 139-158
   Hematology .............................................. 140
   Clinical Microscopy .................................... 151

13 Reproductive Medicine .................................... 159-162
   Andrology and Embryology ............................ 160

14 Coagulation ............................................... 163-174

15 Microbiology .................................................. 175-214
   Microbiology ............................................ 176
   Bacteriology ............................................. 177
   Mycobacteriology ....................................... 194
   Mycology .................................................. 195
   Parasitology .............................................. 198
   Virology .................................................... 200
   Multidiscipline Microbiology ......................... 207
   Infectious Disease Serology ......................... 213

16 Immunology and Flow Cytometry ....................... 215-228
   Immunology ............................................. 216
   Flow Cytometry ....................................... 224

17 Transfusion Medicine, Viral Markers, and Parentage Testing 229-246
   Transfusion Medicine .................................. 230
   Viral Markers ............................................. 242
   Parentage Testing ...................................... 245

18 Histocompatibility .......................................... 247-252

19 Genetics and Molecular Pathology ....................... 253-280
   Cytogenetics ............................................. 254
   Biochemical and Molecular Genetics ................... 257
   Next-Generation Sequencing ......................... 266
   Molecular Oncology—Solid Tumors .................. 274
   Molecular Oncology—Hematologic .................... 278

20 Anatomic Pathology ......................................... 281-312
   Surgical Pathology ..................................... 282
   General Immunohistochemistry ...................... 295
   Immunohistochemistry Predictive Markers ............ 297
   Immunohistochemistry Prognostic Markers .......... 300
   Specialty Anatomic Pathology ....................... 301
   Cytopathology .......................................... 305

21 Forensic Sciences ........................................ 313-316

22 Analyte/Procedure Index .................................. 317-370

23 Program Code Page Index ............................... 371-376
Transmit your quantitative PT results directly to the CAP with direct transmission. Your laboratory will spend less time manually entering results, which will free up resources for other priorities. Plus, you will reduce clerical errors and streamline your process to be more like patient testing.

Get connected. Learn more at cap.org
As laboratory medicine changes, the CAP supports your needs.

- Compare multiple instruments testing for a wide range of respiratory viruses (ID3Q).
- Elevate your laboratory's preanalytical processing steps for tissue and slide preparation of cell blocks (HQCLB) and targeted therapy (HQTAR), thus ensuring quality staining.
- Assess your staff's technical competency for body fluid review (QPB10).
# New Developments

## Quality Management Tools

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-Term Quality Studies and Competency Assessments</td>
<td>Non-Physician Care Team Satisfaction With Clinical Laboratory Services</td>
<td>QP231</td>
<td>27</td>
</tr>
<tr>
<td>Short-Term Quality Studies and Competency Assessments</td>
<td>Technical Competency Assessment of Body Fluid Review</td>
<td>QPB10</td>
<td>28</td>
</tr>
</tbody>
</table>

## Quality Cross Check

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>Quality Cross Check—Nucleic Acid Amplification, Respiratory Limited</td>
<td>ID3Q</td>
<td>49</td>
</tr>
</tbody>
</table>

## Instrumentation Verification Tools

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration Verification/Linearity</td>
<td>High-Sensitivity Troponin I Calibration Verification/Linearity</td>
<td>LN48</td>
<td>135</td>
</tr>
</tbody>
</table>

## Hematology and Clinical Microscopy

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematology</td>
<td>Hematology Automated Differential Series</td>
<td>FH17/FH17P</td>
<td>141</td>
</tr>
</tbody>
</table>

## Coagulation

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulation</td>
<td>Expanded Coagulation Factors</td>
<td>ECF</td>
<td>166</td>
</tr>
</tbody>
</table>

## Microbiology

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology</td>
<td>Carbapenemase Detection</td>
<td>CRE</td>
<td>187</td>
</tr>
<tr>
<td>Virology</td>
<td>Mpox Virus</td>
<td>MPOX</td>
<td>203</td>
</tr>
</tbody>
</table>
Transfusion Medicine, Viral Markers, and Parentage Testing

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfusion Medicine</td>
<td>Direct Antiglobulin Testing—Automated</td>
<td>ADAT</td>
<td>236</td>
</tr>
</tbody>
</table>

Genetics and Molecular Pathology

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenetics</td>
<td>CAP/ACMG Fluorescence In Situ Hybridization for Paraffin-Etch-Embedded Tissue ALK Rearrangement in Lung</td>
<td>CYALK</td>
<td>255</td>
</tr>
<tr>
<td>Next-Generation Sequencing</td>
<td>Next-Generation Sequencing Solid Tumor Bioinformatics Hybrid</td>
<td>NGSB4</td>
<td>268</td>
</tr>
<tr>
<td>Next-Generation Sequencing</td>
<td>Next-Generation Sequencing Hematologic Malignancies Bioinformatics Hybrid</td>
<td>NGSB5</td>
<td>270</td>
</tr>
</tbody>
</table>

Anatomic Pathology

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Pathology</td>
<td>CAP/NHS HistoQIP Cell Block Preparations</td>
<td>HQCLB</td>
<td>287</td>
</tr>
<tr>
<td>Surgical Pathology</td>
<td>CAP/NHS HistoQIP Targeted Therapy</td>
<td>HQTAR</td>
<td>288</td>
</tr>
</tbody>
</table>

Ensure precise results across all your SARS-CoV-2 testing platforms.

- Perform testing on multiple assays at once
- Receive enough specimen to test up to three assays with three challenges per mailing
- Receive customized reports that include peer group evaluations and assay comparability statistics

Quality Cross Check—SARS-CoV-2 Molecular (COV2Q)
Quality Cross Check—SARS-CoV-2 Antigen (COVAQ)
Quality Cross Check—SARS-CoV-2 Serology (COVSQ)

Add them to your order.
## 2022 New Programs

<table>
<thead>
<tr>
<th>Name</th>
<th>Program Code</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Continuing Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informatics Essentials for Pathologists</td>
<td>ICBE/ICBE1</td>
<td>15</td>
</tr>
<tr>
<td>Risk Management</td>
<td>QMEDRISK</td>
<td>19</td>
</tr>
<tr>
<td><strong>Quality Management Tools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Competency Assessment of Peripheral Blood Smears</td>
<td>QPC10/QPC25</td>
<td>29</td>
</tr>
<tr>
<td><strong>Quality Cross Check</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality Cross Check—Hematology</td>
<td>FH13Q</td>
<td>45</td>
</tr>
<tr>
<td><strong>Instrumentation Verification Tools</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-Sensitivity Troponin T Calibration Verification/Linearity</td>
<td>LN47</td>
<td>135</td>
</tr>
<tr>
<td><strong>Coagulation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viscoelastic Testing—Whole Blood</td>
<td>VES1</td>
<td>170</td>
</tr>
<tr>
<td><strong>Microbiology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint Infection Panel</td>
<td>JIP</td>
<td>208</td>
</tr>
<tr>
<td><strong>Genetics and Molecular Pathology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Next-Generation Sequencing Hematologic Malignancies Bioinformatics</td>
<td>NGSB3</td>
<td>269</td>
</tr>
<tr>
<td>Next-Generation Sequencing Undiagnosed Disorders—Trio Analysis</td>
<td>NGSET</td>
<td>272</td>
</tr>
<tr>
<td>Copy Number Variant—Solid Tumor</td>
<td>CNVST</td>
<td>273</td>
</tr>
<tr>
<td>Tumor Mutational Burden</td>
<td>TMB</td>
<td>273</td>
</tr>
<tr>
<td><strong>Anatomic Pathology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p53 Immunohistochemistry Tissue Microarray</td>
<td>P53</td>
<td>296</td>
</tr>
</tbody>
</table>
We support laboratory professionals. Maintain your certification with Surveys continuing education (CE).

- Offer your staff more than 100 CE credits.
- Advance skills with education activities developed by more than 600 physicians and doctoral scientists with expertise in pathology and laboratory medicine.
- Meet certification and licensure requirements with CE across multiple disciplines.

Continuing Education

Continuing Education Programs .................................................................................................................... 8
Competency Assessment Hub ........................................................................................................................ 16
QMEd™ Online Educational Courses ............................................................................................................ 19

Program Changes

Informatics Case-Based Education (ICBE/ICBE1) is now Informatics Essentials for Pathologists (ICBE/ICBE1) ........................................................................................................................................... 15
Competency Assessment Program is now Competency Assessment Hub .......................................................... 16
Continuing Education Programs

Your laboratory demonstrates its commitment to quality by choosing CAP Surveys programs. You’ll find the same level of quality in the CAP Continuing Education Programs.

CME (Continuing Medical Education for Physicians)

Accreditation

The College of American Pathologists (CAP) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

CME Category 1

The CAP designates these educational activities for a maximum of the stated number of *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CE (Continuing Education for Nonphysicians)

The CAP designates these educational activities for a maximum of the stated number of credits of continuing education. Participants should claim only the credit commensurate with the extent of their participation in the activity.

The American Society for Clinical Pathology (ASCP) Board of Certification (BOC) Certification Maintenance Program (CMP) accepts these activities to meet its continuing education requirements.

This activity is approved for continuing education credit in California and Florida.

Cytotechnologists may apply the credits from the PAP Education (PAPCE/PAPJE/PAPKE/PAPLE/PAPME), NGC, FNAG, FNA, and TICP programs toward the required educational activities for the American Society of Cytopathology (ASC) Continuing Education Credit Program (CECC) and the International Academy of Cytology (IAC).

This activity is eligible for continuing medical education (CME) credit or continuing education (CE) credit.
Surveys Continuing Education Activities

When your laboratory participates in CAP Surveys, every member of your team can enroll in education activities and earn continuing education (CE) credit at no additional charge. Simply follow these steps:

1. Establish a free Web account.
2. Complete a reading provided in the Participant Summary or Final Critique.
3. Answer online learning assessment questions.

Each member of your staff can access the Surveys education activities for a maximum of 12 months.

### Surveys Educational Activities

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Discipline</th>
<th>Catalog Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry</td>
<td>C1, C3/C3X, C4, C2/CZ/CZ2X, Z</td>
<td>Chemistry</td>
<td>58-60</td>
</tr>
<tr>
<td>Quality Cross Check—Whole Blood Glucose</td>
<td>WBGQ</td>
<td>Chemistry/Quality Cross Check</td>
<td>41</td>
</tr>
<tr>
<td>Blood Gas</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>Chemistry</td>
<td>96</td>
</tr>
<tr>
<td>Special Chemistry</td>
<td>M, OLI, LPE, SPE, UB JP</td>
<td>Chemistry</td>
<td>78, 80</td>
</tr>
<tr>
<td>Coagulation—Limited</td>
<td>CGB, CGL, CGDF</td>
<td>Coagulation</td>
<td>164</td>
</tr>
<tr>
<td>Cytogenetics</td>
<td>CY</td>
<td>Cytogenetics</td>
<td>254</td>
</tr>
<tr>
<td>Hematology—Basic</td>
<td>HE, HEP</td>
<td>Hematology and Clinical Microscopy</td>
<td>140</td>
</tr>
<tr>
<td>Blood Cell Identification, Photographs</td>
<td>BCP, BCP2</td>
<td>Hematology and Clinical Microscopy</td>
<td>144</td>
</tr>
<tr>
<td>Hematology Automated Differential Series</td>
<td>FH1-FH4, FH9, FH10, FH13, FH16, FH17</td>
<td>Hematology and Clinical Microscopy</td>
<td>141</td>
</tr>
<tr>
<td>Virtual Body Fluid</td>
<td>VBF</td>
<td>Hematology and Clinical Microscopy</td>
<td>154</td>
</tr>
<tr>
<td>Bone Marrow Cell Differential</td>
<td>BMD</td>
<td>Hematology and Clinical Microscopy</td>
<td>144</td>
</tr>
<tr>
<td>Immunology</td>
<td>ANA, ASO, CRP, HCG, IM, RF/RFX, RUB/RUBX, IL, IG/IGX, S2, S4, S5, AHT, CCP, RDS, G, COVS</td>
<td>Immunology and Flow Cytometry</td>
<td>216-218, 220-222</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>D</td>
<td>Microbiology</td>
<td>177</td>
</tr>
<tr>
<td>Mycology and Aerobic Actinomycetes</td>
<td>F</td>
<td>Microbiology</td>
<td>195</td>
</tr>
<tr>
<td>Limited Bacteriology</td>
<td>D1, D2, D3, D5, D6, D8, MC3, MC4, RMC</td>
<td>Microbiology</td>
<td>179-181, 183-184</td>
</tr>
<tr>
<td>Embryology</td>
<td>EMB</td>
<td>Reproductive Medicine</td>
<td>161</td>
</tr>
<tr>
<td>Sperm Count, Motility, Morphology, and Viability</td>
<td>SMCD, SM1CD, SM2CD</td>
<td>Reproductive Medicine</td>
<td>160</td>
</tr>
<tr>
<td>Semen Analysis</td>
<td>SC, SC1, PV, PV1, SM, SV, ASA</td>
<td>Reproductive Medicine</td>
<td>160</td>
</tr>
<tr>
<td>Toxicology</td>
<td>FTC, NOB, OFD, T, THCB, UDC, UT</td>
<td>Toxicology</td>
<td>100, 104-105, 109-111</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>J, JE1, EXM, EXM2, J1, JATE1</td>
<td>Transfusion Medicine</td>
<td>230-231, 233</td>
</tr>
</tbody>
</table>
Surveys Self-Reported Training Opportunities
When your laboratory participates in CAP Surveys, every member of your team can receive self-reported training opportunities.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Source</th>
<th>Catalog Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality Management Tools</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QP231 - Non-Physician Care Team Satisfaction With Clinical Laboratory Services</td>
<td>QP231</td>
<td>Expanded Participant Summary</td>
<td>27</td>
</tr>
<tr>
<td>QPB10 - Technical Competency Assessment of Body Fluid Review</td>
<td>QPB10</td>
<td>Data Analysis and Critique</td>
<td>28</td>
</tr>
<tr>
<td>QPC10, QPC25 - Technical Competency Assessment of Peripheral Blood Smears</td>
<td>QPC10, QPC25</td>
<td>Data Analysis and Critique</td>
<td>29</td>
</tr>
<tr>
<td>QPD10, QPD25 - Technical Competency Assessment of Gram Stains</td>
<td>QPD10, QPD25</td>
<td>Data Analysis and Critique</td>
<td>30</td>
</tr>
<tr>
<td><strong>Hematology and Clinical Microscopy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Cell Identification, Photographs</td>
<td>BCP, BCP2</td>
<td>Participant Summary</td>
<td>144</td>
</tr>
<tr>
<td>Bone Marrow Cell Differential</td>
<td>BMD</td>
<td>Participant Summary</td>
<td>144</td>
</tr>
<tr>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>EHE1</td>
<td>Participant Summary</td>
<td>149</td>
</tr>
<tr>
<td>Hematology—Basic</td>
<td>HE, HEP</td>
<td>Participant Summary</td>
<td>140</td>
</tr>
<tr>
<td>Hemoglobinopathy</td>
<td>HG</td>
<td>Participant Summary</td>
<td>145</td>
</tr>
<tr>
<td>Virtual Body Fluid</td>
<td>VBF</td>
<td>Participant Summary</td>
<td>154</td>
</tr>
<tr>
<td>Virtual Peripheral Blood Smear</td>
<td>VPBS</td>
<td>Participant Summary</td>
<td>149</td>
</tr>
<tr>
<td>Clinical Microscopy</td>
<td>CMP, CMMP, CMP1</td>
<td>Participant Summary</td>
<td>151–152</td>
</tr>
<tr>
<td><strong>Microbiology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Parasite</td>
<td>BP</td>
<td>Participant Summary/Final Critique</td>
<td>199</td>
</tr>
<tr>
<td>Expanded Bacteriology</td>
<td>DEX</td>
<td>Participant Summary/Final Critique</td>
<td>178</td>
</tr>
<tr>
<td>Yeast</td>
<td>F1</td>
<td>Participant Summary/Final Critique</td>
<td>195</td>
</tr>
<tr>
<td>Parasitology</td>
<td>P</td>
<td>Participant Summary/Final Critique</td>
<td>198</td>
</tr>
<tr>
<td>Ticks, Mites, and Other Arthropods</td>
<td>TMO</td>
<td>Participant Summary</td>
<td>199</td>
</tr>
<tr>
<td>Worm Identification</td>
<td>WID</td>
<td>Participant Summary</td>
<td>199</td>
</tr>
<tr>
<td><strong>Toxicology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug Monitoring for Pain Management</td>
<td>DMPM</td>
<td>Participant Summary</td>
<td>112</td>
</tr>
</tbody>
</table>

*Notes:
- CAP Self-Reported Training Opportunities do not offer CE credit, but can be used toward fulfilling requirements for certification maintenance by agencies such as the American Society for Clinical Pathology (ASCP). Please verify with your certifying agency to determine your education requirements.
- These opportunities are subject to change. Refer to the Participant Summary/Final Critique for availability.
Continuing Certification (CC)

Continuing Certification (CC) is the board certification program that involves continuous professional development and ensures that an American Board of Pathology (ABPath) board-certified pathologist is committed to lifelong learning and competency in a specialty and/or subspecialty.

There are six competency categories defined by the American Board of Medical Specialties (ABMS) and endorsed by the ABPath to fulfill specific CC requirements. They are listed below with their descriptions.

All CAP education activities providing CME credits meet the CC Part II: Lifelong Learning requirements. Some programs will meet the requirements for CC Improvement in Medical Practice (IMP) (formerly Part IV) at the laboratory or the individual levels. Programs that meet IMP are identified within the description of the program. Visit the CAP website for the current list of programs that meet the requirements for CC Part II and IMP.

Interpersonal and Communication Skills
Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, patients' families, and professional associates.

Medical Knowledge
Demonstrate knowledge of established and evolving biomedical, clinical, and cognate sciences and the application of this knowledge to pathology.

Practice-Based Learning and Improvement
Demonstrate ability to investigate and evaluate diagnostic and laboratory practices in your own laboratory, appraise and assimilate scientific evidence, and improve laboratory practices and patient care.

Patient Care
Demonstrate a satisfactory level of diagnostic competence and provide appropriate and effective consultation in the context of pathology services.

Professionalism
Demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diverse patient population.

Systems-Based Practice
Demonstrate understanding of and contribution to local, regional, and national health care systems, and support health care in systems-based practice definition.
## Education Programs

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Maximum CME Category 1 Credits Annually</th>
<th>Maximum CE Credits Annually</th>
<th>Format</th>
<th>Catalog Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autopsy Pathology*</td>
<td>AUP/AUP1</td>
<td>12.5</td>
<td>NA</td>
<td>Online (DigitalScope®)</td>
<td>301</td>
</tr>
<tr>
<td>Clinical Pathology Improvement Program*</td>
<td>CPIP/CPIP1</td>
<td>15</td>
<td>NA</td>
<td>Online</td>
<td>14</td>
</tr>
<tr>
<td>Digital Slide Program—Dermatopathology*</td>
<td>DPATH/DPATH1</td>
<td>15</td>
<td>NA</td>
<td>Online (DigitalScope)</td>
<td>302</td>
</tr>
<tr>
<td>Digital Slide Program in FNA*</td>
<td>FNA/FNA1</td>
<td>10</td>
<td>10</td>
<td>Online (DigitalScope)</td>
<td>311</td>
</tr>
<tr>
<td>Fine-Needle Aspiration Glass Slide</td>
<td>FNAG/FNAG1</td>
<td>10</td>
<td>10</td>
<td>Glass Slides</td>
<td>312</td>
</tr>
<tr>
<td>Forensic Pathology*</td>
<td>FR/FR1</td>
<td>12.5</td>
<td>12.5</td>
<td>Online</td>
<td>314</td>
</tr>
<tr>
<td>Hematopathology Online Education*</td>
<td>HPATH/HPATH1</td>
<td>12.5</td>
<td>12.5</td>
<td>Online (DigitalScope)</td>
<td>150</td>
</tr>
<tr>
<td>Informatics Essentials for Pathologists*</td>
<td>ICBE/ICBE1</td>
<td>4</td>
<td>NA</td>
<td>Online</td>
<td>15</td>
</tr>
<tr>
<td>Nongynecologic Cytopathology Education**</td>
<td>NGC/NGC1</td>
<td>25</td>
<td>25</td>
<td>Glass Slides With Online Cases (DigitalScope)</td>
<td>310</td>
</tr>
<tr>
<td>Neuropathology Program*</td>
<td>NP/NP1</td>
<td>10</td>
<td>NA</td>
<td>Online (DigitalScope)</td>
<td>304</td>
</tr>
<tr>
<td>Gynecologic Cytopathology PAP Education Program***</td>
<td>PAPCE/APAPCE</td>
<td>8</td>
<td>8</td>
<td>Glass Slides</td>
<td>306</td>
</tr>
<tr>
<td></td>
<td>PARJE/APARJE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPKE/APAPKE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPLE/APAPLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPME/APAPME</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Series 1 or 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glass Slide Cytopathology PAP PT Program (With Glass Slide PAP Education)***</td>
<td>PAPCPT/APAPCPT</td>
<td>8</td>
<td>8</td>
<td>Glass Slides</td>
<td>305</td>
</tr>
<tr>
<td></td>
<td>PARJPT/APARJPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPKPT/APAPKPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPLPT/APAPLPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPMPT/APAPMPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Program is available for purchase online. Go to cap.org and choose the Education tab.

**NGC provides up to 20 CME/CE credits for the glass slides and 5 CME/CE credits for the online slide portion of the program.

***PAP provides up to 8 CME/CE credits for the glass slides.
## Education Programs continued

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Maximum AMA PRA CME Category 1 Credits Annually</th>
<th>Maximum CE Credits Annually</th>
<th>Format</th>
<th>Catalog Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Improvement Program in Surgical Pathology</td>
<td>PIP/PIP1</td>
<td>40</td>
<td>NA</td>
<td>Glass Slides With Online Cases (DigitalScope)</td>
<td>283</td>
</tr>
<tr>
<td>Online Performance Improvement Program in Surgical Pathology*</td>
<td>PIPW/PIPW1</td>
<td>40</td>
<td>NA</td>
<td>Online (DigitalScope)</td>
<td>282</td>
</tr>
<tr>
<td>Nongynecologic Cytopathology Intraoperative Touch Imprint/ Crush Preparation Program*</td>
<td>TICP/TICP1</td>
<td>10</td>
<td>10</td>
<td>Online (DigitalScope)</td>
<td>309</td>
</tr>
<tr>
<td>Virtual Biopsy Program*</td>
<td>VBP/VBP1</td>
<td>25</td>
<td>NA</td>
<td>Online (DigitalScope)</td>
<td>284</td>
</tr>
</tbody>
</table>

*Program is available for purchase online. Go to cap.org and choose the Education tab.

### System Requirements

DigitalScope is a Web-based whole slide image (WSI) retrieval and viewing system. DigitalScope is supported with Microsoft Internet Explorer 11.0 (limited support for IE 9 and 10) or later, Firefox 4.0 or later, Safari 3, and the latest Google Chrome version.

For the most up-to-date information on system requirements, go to cap.org and click **Browser and Operating System Requirements**, located at the bottom of the homepage. The download speed and the appearance of the activity will vary depending on the type and speed of your Internet connection, computer’s power, and browser.

---

### Identify and Control Risks in Your Laboratory

The QMED online course Risk Management provides a realistic case study as well as video commentary by CAP pathologists, inspectors, and ISO 15189 assessors. It shows you how to:
- Find, prioritize, and control risks
- Use common tools
- Assess how your laboratory’s culture is affecting risks

Includes an Excel-based **Risk Register Tool**, which helps you prioritize and keep track of risks.

See the Continuing Education section. Add QMEDRISK to your order.

---

“Managing risks is a mindset that needs to be present throughout the laboratory... This course will help you manage risk to a level that is acceptable to our physicians, our patients, and our administration.”

Dr. Gaurav Sharma, MD, FCAP
Division Head of Regional Laboratories
Henry Ford Health System
New for 2023: Access CPIP cases when and where it's convenient via PC or personal mobile device.

Pathologists can keep abreast of current scientific knowledge with interactive, case-based learning to address both common and esoteric issues faced in the laboratory.

CPIP supports pathologists who do principally clinical pathology as well as those who do primarily anatomic pathology but cover clinical pathology. A diverse portfolio of real-life case scenarios, including images and clinical background, help pathologists to stay current on issues and advances in the laboratory.

Designed for pathologists, by pathologists. Each case is developed and peer-reviewed, ensuring learnings are practical and easily applied to work. Thought-provoking questions with feedback and multiple choice knowledge checks assess and confirm diagnostic skills. Participants may apply 1.25 CME credits for each CPIP toward the ABPath's Continuing Certification (CC) requirements.

### Clinical Pathology Improvement Program

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Cases per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online cases in clinical pathology</td>
<td>CPIP/CPIP1</td>
<td>12</td>
</tr>
</tbody>
</table>

**Consider CPIP for:**
- Medical directors seeking to continuously improve the clinical pathology knowledge and collective skills of their pathology team.
- Pathologists with clinical and/or laboratory management responsibilities.
- Pathologists seeking CME CC credits in clinical pathology.
- Subspecialty clinical pathologists who need to keep current.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Case Schedule (subject to change)</th>
<th>Month 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Management</td>
<td>Occurrence management</td>
<td>January</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Hypoxemia</td>
<td>February</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>Merging laboratories and implications for blood banks</td>
<td>March</td>
</tr>
<tr>
<td>Microbiology</td>
<td>C. difficile</td>
<td>April</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>Platelet refractoriness</td>
<td>May</td>
</tr>
<tr>
<td>Molecular Pathology</td>
<td>Fetal aneuploidy</td>
<td>June</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Hemoglobin A1c</td>
<td>July</td>
</tr>
<tr>
<td>Microbiology</td>
<td>Microbiology checklist breakpoints</td>
<td>August</td>
</tr>
<tr>
<td>Hematology</td>
<td>Monocytosis</td>
<td>September</td>
</tr>
<tr>
<td>Cytogenetics</td>
<td>B-Lymphoblastic leukemia/lymphoma</td>
<td>October</td>
</tr>
<tr>
<td>Molecular Pathology</td>
<td>Pitfalls/limitations of molecular methodologies</td>
<td>November</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>von Willebrand Disease</td>
<td>December</td>
</tr>
</tbody>
</table>

To learn more visit cap.org and search CPIP.
Informatics Essentials for Pathologists (ICBE/ICBE1)

Every pathologist, no matter their background or career track, will take a leadership role in the laboratory, whether as section head, project leader, or laboratory medical director. The pathologist’s role involves guiding a complex interface between technology, staff, workflow processes, and data management. The Informatics Essentials for Pathologists program prepares pathologists to keep current on technology challenges faced by pathologists in their practice. With a focus on practical application of informatics principles to real-life scenarios, this case-based program offers content authored by pathologists, for pathologists. It helps pathologists apply their learnings to their decisions to implement meaningful changes for present and future problems. Issues in practice addressed include topics such as cybersecurity, software implementations and upgrades, laboratory test ordering issues, regulatory compliance, and analysis of patient population data through laboratory testing. Participants may earn CME credits for each case completed.

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Cases per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online cases in clinical informatics</td>
<td>ICBE/ICBE1</td>
<td>4 (One per quarter. See below.)</td>
</tr>
</tbody>
</table>

Additional Information

Consider the ICBE program if you are a:

- Medical director seeking to improve the informatics knowledge and collective skills of the pathology team.
- Pathologist with an interest in learning informatics for leadership roles.
- Pathologist with informatics and/or laboratory management responsibilities.
- Pathologist with section head responsibility wanting to use informatics to improve operations in their team.
- Pathologist seeking CME credits in clinical informatics.

Case Schedule*

<table>
<thead>
<tr>
<th>Case Schedule</th>
<th>Month 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying the best telepathology solution for your laboratory</td>
<td>February</td>
</tr>
<tr>
<td>Implementing a digital pathology system</td>
<td>May</td>
</tr>
<tr>
<td>Investigating barcode misreads</td>
<td>August</td>
</tr>
<tr>
<td>Preventing cyberattacks</td>
<td>November</td>
</tr>
</tbody>
</table>

*Subject to change

To learn more, visit cap.org and search Informatics.

Program Information

- ICBE - One online clinical informatics case per quarter
- ICBE1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with ICBE
- Earn a maximum of 4 CME credits (AMA PRA Category 1 Credits) per year
- Four cases per year; your CAP shipping contact will be notified via email when the activity is available
Competency Assessment Hub

An updated program with new features helps you avoid the deficiency.

Competency Assessment Hub

Competency Assessment Hub replaces our Competency Assessment Program with a single central utility for laboratories to ensure they meet CLIA competency assessment requirements and fulfill laboratory professional continuing education (CE) needs. Built on MediaLab’s platform, the CAP’s Competency Assessment Hub helps keep you in compliance by managing your personnel’s competency assessment performance and records.

- **New interface.** Competency Assessment Hub’s updated interface is intuitive and easy to use.
- **New health care network access.** This additional option can offer your entire network access under a single subscription.
- **New question bank.** Design your own assessment courses to demonstrate problem-solving skills customized to your laboratory’s written procedures.
- **High-quality Pro courses.** Your laboratory staff can earn PACE CE credits in a variety of disciplines and courses.
- **Same tools.** ChecklistBuilder, CourseBuilder, and Competency Profiles can ensure convenient documentation for all six areas of competency as defined by CLIA and the CAP Laboratory Accreditation Program.
- **Same reporting.** With just a few clicks, administrators can stay on top of documentation and records to track progress toward required dates and training for all staff members.
- **Same instrument-specific checklists.** More than 130 standard checklists help you meet your laboratory’s documentation needs.
- **Easy access.** The Competency Assessment Hub is cloud based, so it’s available 24/7 from any PC, laptop, or tablet—wherever you have an Internet connection.

Add Safety & Compliance Courses Especially Developed for the Laboratory

As an add-on option, Competency Assessment Hub offers a package of seven complementary safety and compliance courses with PACE CE credits—appropriate for annual laboratory-specific compliance training and for clinical laboratory science students prior to clinical rotations. These courses include:

- OSHA Bloodborne Pathogens
- OSHA Hazard Communication and Chemical Hygiene
- OSHA Electrical Safety
- OSHA Fire Safety
- OSHA Formaldehyde
- Tuberculosis Awareness for Health Care Workers
- Medical Error Prevention: Patient Safety

With the Competency Assessment Hub, you can keep your laboratory organized and inspection-ready every day of the year. Choose the Competency Assessment Hub subscription that best fits your laboratory or network. Please refer to the ordering information and course descriptions on the following pages. For more information, visit cap.org and choose Competency Assessment Hub from the Education Main Page via the Education tab.

<table>
<thead>
<tr>
<th>Number of Users*</th>
<th>Competency Assessment Hub</th>
<th>Competency Assessment Hub With Optional Safety &amp; Compliance Courses**</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 to 50</td>
<td>CA0050</td>
<td>CA0050 + XCA0050</td>
</tr>
<tr>
<td>51 to 250</td>
<td>CA0250</td>
<td>CA0250 + XCA0250</td>
</tr>
<tr>
<td>251 to 500</td>
<td>CA0500</td>
<td>CA0500 + XCA0500</td>
</tr>
<tr>
<td>501 to 1000</td>
<td>CA1000</td>
<td>CA1000 + XCA1000</td>
</tr>
<tr>
<td>1001 to 1500</td>
<td>CA1500</td>
<td>CA1500 + XCA1500</td>
</tr>
</tbody>
</table>

*For subscriptions for single users or more than 1500 users, please contact the CAP for more information.

**Safety & Compliance Course subscriptions require a standard Competency Assessment Hub subscription.
2023 Pro Courses

Blood Bank/Transfusion Medicine
- ABO typing discrepancies
- Antibody screen and identification
- Direct antiglobulin test
- Blood components—storage, handling, and selection
- Transfusion reactions
- Quality control in the blood bank laboratory

Immunology
- Hepatitis testing
- Qualitative HIV testing
- Human chorionic gonadotropin and fetal fibronectin
- Rapid serology kit tests
- Molecular amplification methods for detection of infectious diseases
- Monitoring the testing process in immunology

Microbiology
- Gram stain: organism detection and differentiation
- Urine and body fluid cultures
- Genital tract pathogens
- Blood cultures
- Microbiology of the gastrointestinal tract
- The microbiology of wounds

Point-of-Care Testing
- Urine dipstick
- Whole blood prothrombin time and INR (PT/INR) testing
- Whole blood glucose testing
- Cardiac biomarkers
- Blood gas testing
- Provider-performed microscopy and limited waived testing

Quality Programs/Management
- New instrument method validation
- Monitoring the quality control program
- Document control
- Investigating occurrences (occurrence reports, root cause analysis, and corrective action)
- Competency evaluation
- Development and implementation of a quality management program

Safety
- General laboratory safety
- Bloodborne pathogens
- Laboratory waste and spill management
- Fire and electrical safety
- Hazardous chemicals
- SARS-CoV-2/COVID: biosafety precautions
- Ergonomics

Urinalysis/Body Fluids
- Physical and chemical urinalysis
- Microscopic urinalysis—part 1
- Microscopic urinalysis—part 2, crystals and casts
- Cerebrospinal fluid analysis
- Serous and synovial fluids
- Semen analysis
Safety & Compliance Courses

**OSHA Bloodborne Pathogens.** Addresses the OSHA Bloodborne Pathogens standard as it applies to clinical and medical laboratories. Covers major bloodborne pathogens, including hepatitis B and HIV. Focuses on proper handling of sharps, personal protective equipment (PPE), engineering controls such as microbiological safety cabinets, and proper work practices like handwashing.

**OSHA Hazard Communication and Chemical Hygiene.** Describes the OSHA Chemical Hygiene Standard and helps satisfy OSHA requirements for annual training. Explains Haz-Com, the National Fire Protection Agency diamond, the Safety Data Sheet, and common-sense laboratory safety rules applied to clinical laboratory practice.

**OSHA Electrical Safety.** Addresses electrical safety and electrical hazards commonly found in the clinical laboratory. Covers prevention and safety measures, fighting electrical fires, and treatment of electrical injuries.

**OSHA Fire Safety.** Teaches the basics of fire safety in the clinical laboratory, including classes of fire and key acronyms, such as PASS and RACE. Addresses fire prevention, drills, and firefighting techniques.

**OSHA Formaldehyde.** Covers essentials for any laboratory that uses formaldehyde or formalin. Shares facts about formaldehyde, safety risks, proper handling procedure, monitoring, spill clean-up, and personal protective equipment.

**Tuberculosis Awareness for Health Care Workers.** Provides background information about spread of tuberculosis, purified protein derivative (PPD) testing procedures, CDC guidelines, and methods of control.

**Medical Error Prevention: Patient Safety.** Includes potential causes of medical errors in the clinical laboratory, important legislation and definitions, and steps laboratory professionals can take to reduce the impact of medical errors in their workplace. Serves as an ideal part of an effective medical error reduction program. Appropriate for both experienced and newer laboratory personnel.

Note: The Safety & Compliance courses are not available for purchase separately. The courses listed above do not offer CE credit.

---

Enhance the culture of patient safety in your laboratory.

This informative guide will not only help you connect the culture of patient safety in your laboratory to the overall goals of your health care enterprise, but it will also help you:

- Improve colleague communication, handoffs, and transitions
- Use technology to improve laboratory patient safety
- Learn how cognitive bias can contribute to patient safety errors
- Engage the patient navigator to address safety issues through continuity and coordination of care
- Develop and implement a patient safety curriculum for the laboratory
- Understand how accreditation milestones advance patient safety initiatives

Add it to your order.

Or, view sample pages and purchase online:

- printed books at estore.cap.org
- ebooks at ebooks.cap.org

**Item number:** PUB316

Softcover; 128 pages; 2017
QMEd™ Online Educational Courses

Tailored education and quality tools developed with pathologist input

Quality Management Educational Resources (QMEd) courses will help you:

- Build a quality management system (QMS) – one piece at a time – that sustains your continuous improvement and Lean efforts
- Self-assess your current QMS against international quality standards
- Interpret ISO 15189 requirements
- Perform internal audits using tracer audit and process audit methods
- Implement and refine occurrence management with root cause analysis

Course Information

- Delivered online via interface that allows you to pause, resume where you left off, and learn at your own pace
- Mobile-friendly so that you can learn where and when you want
- Accessible a minimum of twelve months
- Includes continuing education (CE) credit
- Individual learners can use their own login and will have their own bookmarking when they leave and return to the course

About the Courses

Risk Management
Order QMEDRISK
Learn how the different elements of the quality management system—eg, internal audit, data analysis—play a role in identifying and controlling risk. Learn best practices for managing your risks, as well as practical tools that apply to all phases of the risk management process. Included is a case example showing how high-level risk assessment can be integrated into management review.

4 CE credits available

Quality Culture
Order QMEDQCUL
Designed for laboratory medical directors, administrative directors, quality managers, and other leaders who can affect the culture of their laboratory through their decisions and actions. The course provides an adaptable program for proactively shaping culture. It includes video commentary by CAP member pathologists. Includes a unique Culture Assessment Tool that helps laboratory leadership get a picture of where your organization needs to improve and where it is strong. This tool helps make culture change a reality.

4 CE credits available

Root Cause Analysis
Order QMEDROOT
Learn real-world methodology to conduct a root cause analysis, along with the tools necessary to implement it. You will even perform key steps based on a participant case study. Choose further examples to study based on the kind of laboratory in which you work, eg, hospital, reference, or contract research organization. Includes the RCA Performance and Feedback Toolkit, a set of tools an organization can use to guide and assess root cause analysis projects. The course is designed for laboratory quality managers and implementation team members.

6 CE credits available
Mistake Proofing  
*Order QMEDMIST*  
Increase your ability to design new processes, modify existing processes, minimize mistakes, and manage your risks. This course provides a methodology focused on five main categories of mistake-proofing tactics and shows examples of these tactics from the domain of laboratory medicine. It includes video commentary by CAP member pathologists with experience using Lean and other process improvement techniques.  
4 CE credits available

Internal Auditing  
*Order QMEDAUDT*  
Increase your capabilities for internal auditing with a proven methodology for process audits, tracer audits, and laser audits. Learn how to prepare for interviews, communicate findings to your quality management team, and use audits to drive process improvements. The course provides detailed, real-world examples you can use to build your own audit plans, plus multimedia presentations of key concepts.  
3 CE credits available

Management Review  
*Order QMEDMGMT*  
This course interprets the ISO 15189 requirements for management review. The CAP’s ISO 15189 assessors discuss how to structure the review meeting, communicate results of quality assessments, and prompt strategic decisions from management—all in the context of the overall health of your organization.  
2 CE credits available

Quality Manual Development  
*Order QMEDMANL*  
This course provides guidance on how to go beyond a quality plan to develop a manual that organizes and communicates your laboratory’s quality management system. You will see an example of an effectively structured and written manual so you can organize and create your own. Plus, the CAP’s ISO 15189 assessors show you approaches to link your quality policy to quality objectives and metrics.  
2 CE credits available

Document Control  
*Order QMEDDOCU*  
This “how-to” course on document control systems details how to control documents in a way that meets ISO 15189 requirements, how to accomplish document control even with minimal resources (such as spreadsheets), and how document control contributes to cost containment. The CAP’s ISO 15189 assessors provide commentary on common pitfalls and best practices.  
2 CE credits available

QMS Implementation Roadmap  
*Order QMEDROAD*  
Outlines the practical steps necessary to build, implement, and maintain a quality management system that meets the ISO 15189 standard. Video recordings of the CAP’s ISO 15189 assessors provide perspective on best practices and pitfalls. Designed for laboratory quality managers, plus your implementation team members.  
2 CE credits available
15189 Walkthrough
Order QMEDWALK
Designed for laboratory quality managers (along with your medical and administrative decision makers) considering implementation of an ISO 15189 program. Summarizes each section of the standard, while clarifying its intent and key requirements. See video recordings of the CAP’s ISO 15189 assessors who offer context and examples of how technical problems relate to more fundamental deficiencies in the quality management system.
2 CE credits available

Make sure your laboratory team is ready to meet the challenges ahead. Add QMED courses to your order form. For more information, visit cap.org and search QMED.
In just seconds, the CAP's Performance Analytics Dashboard provides valuable insights into your laboratory's performance, so you can focus energy on areas that need immediate attention while filtering out distractions. Updated daily, this complimentary performance monitoring tool offers a single comprehensive view of your CAP proficiency testing (PT) results and accreditation status. Reduce the stress of managing today's laboratory with fast access to performance data for a single laboratory or network.

View your laboratory's Performance Analytics Dashboard by accessing e-LAB Solutions Suite from cap.org.
Manage the competency assessment of your laboratory staff.

Learn how the CAP can help you meet your regulatory requirements for assessment of staff technical competency for:

- Body fluids (QPB10).
- Gram stains (QPD10/QPD25).
- Peripheral blood smears (QPC10/QPC25).

Quality Management Tools

Short-Term Quality Studies and Competency Assessments ................................................................. 26
Continuous Quality Monitors ................................................................................................................ 31

New Programs  NEW

Non-Physician Care Team Satisfaction With Clinical Laboratory Services (QP231) .............................. 27
Technical Competency Assessment of Body Fluid Review (QPB10) ..................................................... 28

Discontinued Programs

Antimicrobial Susceptibility Testing: Monitoring and Trend Analysis (QP211)
Laboratory Staffing Ratios (QP222)
Quality Management Tools

Benchmark outside of your laboratory.
The CAP's Quality Management Tools can improve your total testing process by providing a convenient solution to measure and document improvements to processes within your laboratory's quality management system.

- **Short-Term Quality Studies and Competency Assessments** provide opportunities to check performance indicators to keep your laboratory and staff current.
- **Continuous Quality Monitors** examine performance indicators such as turnaround time and patient identification errors throughout the year.

Available for both clinical and anatomic pathology laboratories, Quality Management Tools examine preanalytic, analytic, and postanalytic phases, helping participants to:

- **Establish realistic goals** by comparing performance against institutions with comparable demographics
- **Monitor progress** through unique and robust quality indicators on a periodic basis
- **Make effective decisions** based on practical and in-depth quality management reports
- **Improve efficiencies** to allow time for more patient-centric activities
- **Easily integrate** quality improvement into your daily work processes
- **Meet checklist requirements** of the CAP Laboratory Accreditation Program and standards of The Joint Commission.

Purchase combination packages and save.

### 2023 Short-Term Quality Studies and Competency Assessments

<table>
<thead>
<tr>
<th>Module/Package</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual QP Studies</td>
<td>QP231, QPB10, QPC10, QPD10, QPC25, QPD25</td>
</tr>
<tr>
<td>Four Quality Management Tools (QP231, QPB10, QPC10, QPD10)</td>
<td>PRO</td>
</tr>
</tbody>
</table>

### 2023 Continuous Quality Monitors

<table>
<thead>
<tr>
<th>Module/Package</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Continuous Quality Monitors</td>
<td>QT1, QT2, QT3, QT4, QT5, QT7, QT8, QT10, QT15, QT16, QT17</td>
</tr>
<tr>
<td>Clinical Pathology Module—Includes all 10 CP QT Monitors</td>
<td>QTC</td>
</tr>
<tr>
<td>Combined CP/AP Module—Includes all 11 QT Monitors</td>
<td>QTP</td>
</tr>
</tbody>
</table>
Complement your quality management program needs.

<table>
<thead>
<tr>
<th>Select from the following studies to support your quality improvement initiatives.</th>
<th>Testing Phase</th>
<th>Discipline</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preanalytic</td>
<td>Analytic</td>
<td>Postanalytic</td>
</tr>
<tr>
<td>Non-Physician Care Team Satisfaction With Clinical Laboratory Services (QP231)</td>
<td>NEW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Competency Assessment of Body Fluid Review (QPB10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Competency Assessment of Peripheral Blood Smears (QPC10/QPC25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Competency Assessment of Gram Stains (QPD10/QPD25)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Identification Accuracy (QT1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood Culture Contamination (QT2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Specimen Acceptability (QT3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Date Blood Product Wastage (QT4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gynecologic Cytology Outcomes: Biopsy Correlation Performance (QT5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction With Outpatient Specimen Collection (QT7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stat Test Turnaround Time Outliers (QT8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Values Reporting (QT10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troponin Turnaround Times (QT15)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Results (QT16)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient Order Entry Errors (QT17)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The CAP requires accredited laboratories to have a quality management plan that covers all areas of the laboratory and includes benchmarking key measures of laboratory performance (GEN.13806, GEN.20316, COM.04000). The Joint Commission requires accredited hospitals, laboratory staff and leaders to regularly collect and analyze performance data (PI.01.01.01, PI.03.01.01, LD.03.06.01, LD.03.07.01). CLIA requires laboratories to monitor, assess, and correct problems identified in preanalytic, analytic, and postanalytic systems (§493.1249, §493.1289, §493.1299).*
Short-Term Quality Studies and Competency Assessments

Implement quality monitoring—Use these short-term, comprehensive quality studies and competency assessments to learn how to start monitoring and measuring key processes that may not be commonly monitored in your laboratory. These assessments also analyze emerging industry trends and topics to keep your laboratory ahead of the curve.

Gain experience in data collection and analysis—Based on data collected and submitted during predetermined dates, the CAP provides personalized reports with the individual participant’s performance compared against others.

Strengthen your quality assessment expertise—The CAP’s pathologist experts provide in-depth discussions and identify best practices for laboratories to strive for. In addition, consolidated results of the studies are carefully reviewed and analyzed to be published in the form of scientific articles for further analysis.

Participating laboratories receive:

- User Guide
- Templates and instructions for data collection
- Individual report and report interpretation guide
- Expanded Participant Summary for competency programs with all-laboratories study results and case information, or Data Analysis and Critique that includes data distributions and initial analysis of laboratory practices and commentaries from pathologist experts on improvement opportunities
Short-Term Quality Studies and Competency Assessments

Non-Physician Care Team Satisfaction With Clinical Laboratory Services QP231

Introduction
Assessing non-physician satisfaction with laboratory services provides valuable information for targeting quality improvement activities. The CAP’s Laboratory Accreditation Program requires institutions to measure customer satisfaction. This study is intended to assist laboratory management in measuring satisfaction of services by non-physician medical staff that interact with the laboratory, such as bedside nurses, nurse practitioners, and other advanced practice nurses, physician assistants, radiology technologists, clinical pharmacists, and respiratory therapists. Weekly customer feedback reports may assist laboratory staff to timely address reported customer issues, identify areas for improvement, and understand client needs to address to improve satisfaction by non-physician care team members with laboratory services.

Enrollment will meet CAP Checklist Statements GEN.20316, GEN.20335, and assist in meeting The Joint Commission Standards and Elements of Performance for LD.03.01.01, leaders regularly evaluate the culture of safety and quality, and LD.03.02.01, the laboratory uses data and information to guide leadership decisions regarding safety and quality of laboratory services.

Objectives
This Quality Management Tool (QMT) will assess non-physician satisfaction with clinical laboratory services and help find areas to target for improvement. The focus of this QMT is on care providers other than physicians who frequently order tests, access laboratory results, and interact with laboratory staff. Participation in this QMT will assist your organization in meeting accreditation requirements, evaluate laboratory services, and understand client needs to ensure future satisfaction of care team members with your services.

Data Collection
The laboratory will send a request to their non-physician health care team customers to complete a satisfaction survey regarding their experience across various clinical laboratory service categories including turnaround time, critical value notification, diagnostic accuracy, communication, accessibility, responsiveness, and courtesy.

The surveys are provided to program enrollees in two formats: Online distribution with direct survey data transmission to the CAP (preferred), or via hard-copy response forms requiring the study coordinator to manually enter all survey respondent data. Participants who use the online survey may submit an unlimited number of electronic survey responses, and will receive cumulative customer feedback reports in e-LAB Solutions Suite each week of the study period. Participants who utilize the hard-copy distribution option may submit up to 50 non-physician healthcare team surveys. Participants will also provide responses to a general practices questionnaire.

Performance Indicators
To meet your staff technical competency assessment requirements:

• Overall mean satisfaction score for clinical laboratory services
• Mean satisfaction scores for specific services

This is a one-time study conducted in the first quarter.
Technical Competency Assessment of Body Fluid Review  QPB10

**Introduction**

Laboratories receive a variety of body fluids for evaluation that technologists review. Technical staff must maintain their identification skills of these specimens, and laboratories are required to provide education, and assess competency and consistency of reporting morphology amongst staff of body fluid cell identification on an annual basis.

**Objectives**

This study will assess the effectiveness of educational and practical experience policies and procedures dedicated to the laboratory’s efforts in maintaining technologist skills in the performance of accurate body fluid cell counts and identification of other body fluid features. Results of this study will assist individuals, the laboratory director, and manager with areas to focus on for improvement and education.

The study will help management meet applicable Clinical Laboratory Improvement Amendments (CLIA), CAP Laboratory Accreditation, and The Joint Commission laboratory requirements for personnel competency requirements and consistency of reporting amongst staff.*

**Data Collection**

Technologists will access a series of online, whole slide images to assess their ability to perform cell differentials on Wright-stained body fluids and identify miscellaneous cells and inclusions in cytocentrifuged preparations. Participants will provide additional information about their competency assessment programs, continuing education, and professional background.

Information will be collected from each site regarding minimum qualifications and experience requirements of their technologists, their ongoing educational programs and requirements, as well as relevant procedures and policies.

**Performance Indicators**

- Individual technologist score (%) based on a standardized competency assessment method to determine a technologist’s ability to identify various WBC types, red blood cells, and other items present in normal and abnormal cases in comparison to consensus responses
- Overall laboratory score based on the facility’s individual technologist performance(s)

Reports are provided at institution and technologist levels. A summary of responses to the general questions will be provided for participants.

**Program Information**

To meet your staff technical competency assessment requirements:

- Each QPB10 order includes kits with result forms for up to 10 technologists
- Multiple kits may be purchased to accommodate quantity needed

*Applicable Requirements*

- CLIA personnel requirements (Subpart M, 42 CFR §493.1)
- CAP Laboratory Accreditation Program Checklist statements GEN.55500 Competency Assessment of Testing Personnel, and HEM.35566, consistency of morphologic observation among personnel performing blood fluid cell differentials at least annually.
- The Joint Commission Standards HR. 01.05.03, 01.06.01, 01.07.01, LD.04.05.03, and 04.05.05 regarding in-service training, continuing education, competency, and evaluation of hospital personnel

---

This is a one-time study conducted in the second quarter.
### Technical Competency Assessment of Peripheral Blood Smears  QPC10/QPC25

**Introduction**
The widespread use of automated white blood cell (WBC) differential counts and computer generated whole slide imaging has decreased the time that the technical staff dedicates to morphological assessment of blood cells. However, technologists must maintain their morphological skills and laboratories are required to provide education and assess competency in this area on a regular basis.

**Objectives**
This study will help assess the effectiveness of educational and practical experience policies and procedures dedicated to the laboratory's efforts in maintaining technologist skills in the performance of accurate WBC differential counts and other peripheral blood smear morphological assessments. The evaluation provided will assist in the construction of individual educational programs for the technical staff and show areas that need focused review and improvement. The study will help management meet applicable CLIA, CAP Laboratory Accreditation, and The Joint Commission laboratory requirements for personnel competency requirements and consistency of reporting amongst staff.*

**Data Collection**
A series of online, whole slide images of Wright-Giemsa stained peripheral blood smears using DigitalScope® technology will be available to each participating institution to assess technologists' performance on WBC differential counts and morphology assessment. Technologists will provide information about their continuing education and professional background. Information will be collected from each site regarding their institution's minimum continuing education requirements for their technologists in hematology and relevant procedures and policies related to peripheral blood smear assessment.

**Performance Indicators**
- Individual technologist score (%) based on a standardized competency assessment method to determine a technologist's ability to identify various WBC types, red blood cell morphology, and platelet morphology in normal and abnormal cases
- Overall laboratory score based on the facility's individual technologist performance(s)

Reports are provided at institution and technologist levels. A summary of responses to the general questions will be provided for participants.

**Program Information**
To meet your staff technical competency assessment requirements:
- Result forms for up to 10 technologists (QPC10)
- Result forms for up to 25 technologists (QPC25)
- Multiple kits may be purchased to accommodate quantity needed

***Applicable Requirements**
- CLIA personnel requirements (Subpart M, 42 CFR §493.1)
- CAP Laboratory Accreditation Program Checklist statements GEN.55500 Competency Assessment of Testing Personnel
- HEM.34400, consistency of morphologic observation among personnel performing blood cell microscopy at least annually
- The Joint Commission Standards HR. 01.05.03, 01.06.01, 01.07.01, LD.04.05.03, and 04.05.05 regarding in-service training, continuing education, competency, and evaluation of hospital personnel

---

This is a one-time study conducted in the third quarter.
**Technical Competency Assessment of Gram Stains  QPD10/QPD25**

**Introduction**
Gram stain is a commonly performed bacterial stain in clinical microbiology laboratories. It is often the starting point guiding microbiological workup and initial clinical diagnosis and therapy. It is important for technologists who read Gram stains to provide an accurate interpretation based on reaction type and microscopic morphology in order to provide presumptive identifications and quantification of bacteria and fungi in clinical specimens.

**Objectives**
This study will help assess the effectiveness of educational and practical experience policies and procedures dedicated to the laboratory’s efforts in maintaining technologist skills in the morphological assessment of Gram stains. Participation in this study will help management assess the technologist's ability to evaluate Gram stains using online, whole slide images. These cases provide a standardized review and evaluation for each technologist. The study will help management meet applicable CLIA, CAP Laboratory Accreditation, and The Joint Commission laboratory requirements for personnel competency requirements and consistency of reporting amongst staff.*

**Data Collection**
A series of online, whole slide images of Gram stained smears using DigitalScope technology will be provided to each participating institution to assess technologists' ability to detect various microorganisms. Technologists will provide information about their work experience related to Gram stains, continuing education, and professional background. Information will be collected from each laboratory site to provide information about their continuing education requirements in microbiology, and relevant laboratory procedures and policies related to Gram stain assessment.

**Performance Indicators**
- Individual technologist score (%) for each Gram stain case, and overall based on a standardized competency assessment method
- Overall laboratory score based on the facility's individual technologist performance(s)

Reports are provided at institution and technologist levels. A summary of responses to the general questions will be provided for participants.

**Program Information**
To meet your staff technical competency assessment requirements:
- Result forms for up to 10 technologists (QPD10)
- Result forms for up to 25 technologists (QPD25)
- Multiple kits may be purchased to accommodate quantity needed

*Participation in this study helps laboratories meet:
- CLIA personnel requirements (Subpart M, 42 CFR §493.1)
- CAP Laboratory Accreditation Program Microbiology Checklist statement MIC.11060, Culture Result Reporting: Personnel performing Gram stains for this purpose are subject to competency assessment
- CAP Laboratory Accreditation Program Microbiology Checklist statement MIC.11350, Morphologic Observation Evaluation: The laboratory evaluates consistency of morphologic observation among personnel performing Gram, trichrome and other organism stains at least annually
- CAP Laboratory Accreditation Program Checklist statement GEN.55500, Competency Assessment of Testing Personnel
- The Joint Commission Standards HR.01.05.03, 01.06.01, 01.07.01, LD.04.05.03, and 04.05.05 regarding in-service training, continuing education, competency, and evaluation of hospital personnel

This is a one-time study conducted in the late third quarter.
Continuous Quality Monitors

Use these programs to:
- Identify and continuously monitor quality improvement over time
- Measure the effectiveness and impact of implemented changes in key processes

How It Works

Step 1:
Establish realistic benchmarks by comparing your laboratory to others like yours.

Step 2:
Identify improvement opportunities.

Step 3:
Monitor improvement over time to ensure accurate results, patient safety, and quality patient care.

The individual reports include performance of quality indicators over time, benchmarking information, trends, and suggested areas for improvement.

Participating laboratories receive:
- User Guide
- Templates and instructions for data collection
- Quarterly reports that include fingerprint clusters, customer-defined groups, and all institution comparisons
- Opportunity to connect with your counterparts enrolled in the same program through the Peer Directory
Continuous Quality Monitors

### Patient Identification Accuracy QT1

In order to report accurate laboratory results and meet The Joint Commission National Patient Safety Goal #1 for the Laboratory: “Improve the accuracy of patient identification,” institutions must properly identify patients. Since most laboratories perform testing away from the patient, patient identification, labeling of specimens, and coordination with test requisitions must be performed accurately and completely. By continuously monitoring for wristband errors, participants can promptly identify and correct problems that may interfere with patient care services. Use this monitor to help meet CAP Laboratory Accreditation Program General Checklist statements GEN.20316, GEN.40490, and GEN.40825.

**Objectives**
Assess the incidence of wristband errors within individual institutions, compare performance between participating institutions, and identify improvement opportunities.

**Data Collection**
On six predetermined days per month, participants will monitor patient wristband identification for all phlebotomies performed at their institution. Phlebotomists will tally the total number of wristbands checked, the number of errors found, and the types of wristband errors. This monitor includes all routinely wristbanded patients. Include emergency department patients only if the emergency department routinely applies wristbands to these patients.

**Performance Indicator**
- Wristband error rate (%)

**Performance Breakdown**
- Breakdown of wristband error types (%)

### Blood Culture Contamination QT2

Despite advances in blood culture practices and technology, false-positive blood culture results due to contaminants continue to be a critical problem. Blood culture contamination rate, the primary indicator of preanalytic performance in microbiology, is associated with increased length of hospital stay, additional expense, and the administration of unnecessary antibiotics.

The CAP and other accrediting organizations require you to monitor and evaluate key indicators of quality for improvement opportunities. Use this monitor to help meet CAP Laboratory Accreditation Checklist statements MIC.22630 and MIC.22635: “The laboratory must determine and regularly review the number of contaminated cultures. Tracking the contamination rate and providing feedback to units and persons drawing cultures is one method that has been shown to reduce contamination rates.” This will also help laboratories meet The Joint Commission Standard QSA 04.07.01 EP3.

**Objective**
Determine the rate of blood culture contamination using standardized criteria for classifying contaminants.

**Data Collection**
On a monthly basis, participants will tabulate the total number of blood cultures processed and the total number of contaminated blood cultures. Blood cultures from neonatal patients are tabulated separately. For the purposes of this study, participants will consider a blood culture to be contaminated if they find one or more of the following organisms in only one of a series of blood culture specimens: Coagulase-negative *Staphylococcus*; *Micrococcus*; Alpha-hemolytic viridans group streptococci; *Propionibacterium acnes*; *Corynebacterium* sp. (diptheroids); or *Bacillus* sp. Participants have the option to monitor institution-specific subgroups, for example, a specific department or patient population.

**Performance Indicators**
- Neonatal contamination rate (%)
- Other contamination rate (%)
- Overall contamination rate (%)

---

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
### Laboratory Specimen Acceptability   QT3

A substantial amount of rework, diagnostic and therapeutic delay, and patient inconvenience can result from specimen rejection. Patient redraws may result from unlabeled, mislabeled, and incompletely labeled specimens; clotted and/or hemolyzed specimens; or insufficient specimen quantity. By continuously monitoring specimen acceptability, collection, and transport, laboratories can promptly identify and correct problems. Enrollment in this study may assist the laboratory in monitoring compliance with CAP Laboratory Accreditation Program General Checklist statement GEN.40825: “There is a system to positively identify all patient specimens, specimen types, and aliquots at all times.”

**Objective**

Identify and characterize unacceptable blood specimens that are submitted to the chemistry and hematology/coagulation sections of the clinical laboratory for testing.

**Data Collection**

This monitor includes all blood specimens submitted for testing to the chemistry and hematology departments of the clinical laboratory. On a weekly basis, participants will record the total number of specimens received, the number of rejected specimens, and the primary reason each specimen was rejected.

<table>
<thead>
<tr>
<th>Performance Indicator</th>
<th>Performance Breakdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen rejection rate (%)</td>
<td>Breakdown of reasons for rejection (%)</td>
</tr>
</tbody>
</table>

### In-Date Blood Product Wastage   QT4

Blood for transfusion is a precious resource. At a minimum, wastage of blood that is not out-of-date represents a financial loss to the health care system. More ominously, systemic wastage of blood may reflect an environment of care that is out of control and may pose risks to patient safety.

Enrollment in this program assists laboratories in meeting regulatory requirements as follows:

- CAP Laboratory Accreditation Program Checklist statements: TRM.40875 that requires the transfusion service medical director to monitor and audit transfusion practices to ensure the appropriate use of blood; TRM.30800, Disposition Records; and TRM.32275, Component Records, regarding recording the use of each blood or component product from receipt to final disposition.
- The Joint Commission Standards QSA.05.02.01, adequate blood and blood components; QSA.05.03.03, requirements for policies and procedures for returning unused blood products to blood transfusion services; and QSA.05.22.01, records of blood product disposition.
- AABB Standards for Blood Banks and Transfusion Services assessment 8.2 that requires transfusing facilities to have a peer-review program that monitors transfusion practices for blood components.

**Objective**

Compare the rates of blood product wastage (ie, units discarded in-date) in participating hospitals and track rates of improvement over time.

**Data Collection**

On a monthly basis, participants will use blood bank records to obtain information on the total number of units transfused for each type of blood component. Participants will track the number and type of blood units that are wasted in-date and the circumstances of wastage. This monitor includes the following types of blood components: whole blood (allogeneic), red blood cells (allogeneic), frozen plasma, platelet concentrates, single donor platelets, and cryoprecipitate.

**Performance Indicators**

<table>
<thead>
<tr>
<th>Overall blood wastage rate (%)</th>
<th>Breakdown of circumstances of wastage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastage rates by blood component type (%)</td>
<td></td>
</tr>
</tbody>
</table>

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
### Gynecologic Cytology Outcomes: Biopsy Correlation Performance  QT5

The correlation of cervicovaginal cytology (Pap test) findings with cervical biopsy results is a significant part of the cytopathology laboratory’s quality assurance program. By monitoring this correlation, the laboratory can identify and address potential problems requiring improvement, thereby ensuring better patient results. This study helps laboratories meet CAP Laboratory Accreditation Program Cytopathology Checklist statements CYP.01900, CYP.07543, and CYP.07600 on cytologic/histologic correlation, and The Joint Commission Standard QSA.08.06.03: The cytology laboratory has a process to correlate cytologic interpretations with the corresponding histologic finding.

#### Objective
Quantify the correlation between the findings of cervicovaginal cytology and corresponding histologic material.

#### Data Collection
On a monthly basis, participants will record the number of true-positive, false-positive, and false-negative cytology-biopsy correlations. The false-negative correlations will be classified into four error categories: screening errors, interpretive errors, screening and interpretive errors, and adequacy determination errors. Participants will also record the biopsy diagnoses for Pap tests with an interpretation of atypical squamous cells (ASC-US and ASC-H) or atypical glandular cells (AGC). This monitor includes cervical biopsy specimens submitted to the laboratory that have a corresponding satisfactory or satisfactory but limited Pap test within three months of the biopsy.

#### Performance Indicators
- Predictive value of positive cytology (%)
- Sensitivity (%)
- Screening/interpretation sensitivity (%)
- Sampling sensitivity (%)
- Percent positive for ASC-US interpretations
- Percent positive for ASC-H interpretations
- Percent positive for AGC interpretations

---

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
### Satisfaction With Outpatient Specimen Collection  QT7

Specimen collection is one of the few areas of laboratory medicine that involves direct outpatient contact. As a result, patient satisfaction with this service is a vital indicator of quality laboratory performance. The CAP’s Laboratory Accreditation Program requires measurement of patient satisfaction with laboratory services (Checklist statement GEN.20335). Use this monitor to help meet this requirement.

**Objective**

Assess patient satisfaction with outpatient phlebotomy services by measuring patients’ assessments of laboratory service hours, waiting time, comfort level, professionalism and courtesy, and privacy.

**Data Collection**

On a monthly basis, participants will provide copies of a standardized questionnaire in English and Spanish to a minimum of 25 outpatients (maximum of 99 outpatients) using predetermined data collection criteria. This monitor includes any outpatient undergoing venipuncture. This monitor excludes patients seen in the emergency department, ambulatory surgery area, urgent care facility, chest pain center, 23-hour short-stay facility, employee health department, outpatient health screening fair/promotion, dialysis center, nursing home, or extended care facility.

**Performance Indicators**

- Satisfaction scores and satisfaction rates (% of patients rating 4 or 5) for the following categories:
  - Overall experience
  - Professionalism and courtesy
  - Waiting time
  - Patient privacy
  - Patient comfort
  - Laboratory hours of operation

### Stat Test Turnaround Time Outliers  QT8

The stat test turnaround time (TAT) outlier rate, expressed as a percentage of tests missing target reporting times, is a measure of outcomes that evaluates how well the laboratory meets patient and clinician needs. This monitor helps meet CAP Laboratory Accreditation Program Checklist statement GEN.20316: “The QM program includes monitoring key indicators of quality in the preanalytic, analytic, and postanalytic phases.”

**Objective**

Monitor the frequency that stat test TAT intervals exceed institutional stat test TAT expectations.

**Data Collection**

Before beginning data collection, participants will establish a specimen receipt-to-report deadline for emergency department (ED) stat potassium tests. On six predetermined days per month, participants will monitor the TAT of up to 10 randomly selected ED stat potassium tests on each of three, eight-hour shifts (up to 180 tests per month) and track the number of ED stat potassium results reported later than the established reporting deadline. This monitor includes stat potassium tests ordered as part of a panel and excludes stat potassium levels that are requested on body fluids other than blood, as part of timed or protocol studies, or after the specimen arrives in the laboratory.

**Performance Indicator**

- Stat test TAT outlier rate (%)

**Performance Breakdowns**

- Breakdown of outliers by shift (%)
- Breakdown of outliers by day of week (%)
Continuous Quality Monitors

Critical Values Reporting  QT10

Laboratories commonly refer to critical values as results requiring immediate notification to the physician or caregiver for necessary patient evaluation or treatment. Regulations from agencies and accreditors such as the CMS, The Joint Commission (National Patient Safety Goal NPSG.02.03.01), and the CAP Laboratory Accreditation Program (Checklist statement GEN.20316, COM.30000, COM.30100) mandate that laboratories develop and implement an alert system for critical values. Use this monitor to document compliance with your laboratory’s alert plan.

Objective
Evaluate the documentation of successful critical values reporting in the general laboratory for inpatients and outpatients.

Data Collection
On a monthly basis, participants will evaluate 120 inpatient and 120 outpatient critical values. Data collection will include general chemistry, hematology, and coagulation analytes on the critical values list. Retrospectively, participants will record the total number of critical values monitored and the number with documentation of successful notification. In addition, participants will provide the number of critical values that were not communicated within three hours, the number of failed notifications due to laboratory oversight, and the number of successful notifications to licensed caregivers. This monitor will exclude critical values for cardiac markers, drugs of abuse, therapeutic drug levels, urinalysis, blood gases, point-of-care tests, and tests performed at reference laboratories.

Performance Indicators
- Total critical values reporting rate (%)
- Inpatient critical values reporting rate (%)
- Outpatient critical values reporting rate (%)
- Failed notification (<3 hours) rate (%)

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.

Competency Assessment Hub: Updated functions, same reliability.
The CAP’s new 2023 Competency Assessment Hub offers you the same convenience to record your competency assessment results.
- Subscriptions for an entire network or a single laboratory
- Library of 67 courses in 11 disciplines
- Online tools to customize assessments, assignments, and reporting
Add a Competency Assessment Hub subscription to your order.
Patients presenting to the emergency department (ED) with chest pain must be evaluated quickly. Rapid serum troponin measurement is an important part of ED practice that can provide decisive information for patient management. Reducing delays in troponin testing has been reported to result in shorter length of stay in the ED and more rapid initiation of anti-ischemic treatment. EDs and chest pain centers should, therefore, have effective procedures for ensuring optimal turnaround time (TAT) for troponin testing and a process for ongoing monitoring to ensure that performance meets expectations.

QT15 has multiple time intervals to help pinpoint process time challenges. Laboratories may use this monitor to help meet CAP Laboratory Accreditation Program Checklist statement GEN.20316 QM Indicators of Quality. The American College of Cardiology and the American Heart Association recommend troponin as the preferred diagnostic biomarker in their Acute Coronary Syndromes guideline.

Objectives
This study will assist participating laboratories to determine and monitor:

- The median TATs for processes from order time through result availability, with up to five time intervals within the total testing process
- The percent compliance for troponin results with their institution’s established deadline

Data Collection
Six days per month, collect data from nine patients presenting to the ED with chest pain and tested for troponin level. Data includes time of troponin test order, specimen collection, laboratory receipt, and result availability. Participants are not required to provide data from each TAT component. Participants will select TAT metrics that they wish to monitor, with the option to monitor all metrics.

Participants will also complete a questionnaire about clinical and laboratory practices related to troponin testing.

Performance Indicators
Median TATs for the following time intervals:

- Test order to specimen collection
- Specimen collection to laboratory receipt
- Laboratory receipt to result availability
- Specimen collection to result availability
- Test order to result availability

Compliance (%) with institutional threshold for the following time intervals:

- Specimen collection to result availability
- Test order to result availability

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
Continuous Quality Monitors

**Corrected Results  QT16**

The CAP developed this monitor in recognition of the importance of timely detection and correction of erroneous laboratory results. Accuracy in laboratory results is critical to the effectiveness of a physician's plan of care for a patient. An erroneous result can delay or alter patient treatment; therefore, detection of erroneous results should be a priority in every laboratory and should be monitored as a key quality indicator. Help measure your compliance with CLIA 493.1299, Postanalytic Systems Quality Assessment, and help meet CAP Laboratory Accreditation Program Checklist statements GEN.20316, 41310, 41312, and The Joint Commission standard 02.12.01, Elements of Performance 9 and 10, with this monitor.

**Objective**
Monitor the number of corrected test results within individual institutions and compare performance with that of all institutions and those institutions similar to yours.

**Data Collection**
On a monthly basis, participants will monitor the number of corrected test results and the total number of billable tests for that month. Include test results for all patients in all care settings with the following exclusions: anatomic pathology tests, narrative physician-interpreted tests (eg, bone marrow biopsies and peripheral smear reports), and point-of-care tests.

**Performance Indicator**
- Test result correction rate (per 10,000 billable tests)

---

**Outpatient Order Entry Errors  QT17**

Order accuracy bears an obvious relationship to the quality of laboratory testing. When the laboratory fails to complete a requested test, it delays the diagnostic evaluation, consumes resources, causes patient inconvenience, and may prolong therapy. When the laboratory completes a test that was not requested, the cost of care increases, patients may be subjected to unnecessary phlebotomy, and laboratory efficiency declines. Use this monitor to help meet CAP Laboratory Accreditation Program Checklist statements GEN.20316, 40700, 40725, 40750 for test order and related information accuracy and meet The Joint Commission Standard DC.01.02.01: The laboratory performs testing based on written laboratory test orders.

**Objective**
Measure the incidence of incorrectly interpreted and entered outpatient physician test orders into the laboratory information system, compare performance across institutions, and track performance over time.

**Data Collection**
On six preselected weekdays per month, participants will compare eight outpatient requisitions or order sheets to the orders entered into the laboratory's information system to determine if any order entry errors occurred.

This monitor includes test order review from ambulatory outpatients seen in offices and clinics operated by your laboratory services, private physician offices, nursing homes, extended care facilities, and free-standing phlebotomy areas. Also included are send-out tests, chemistry, hematology, microbiology, immunology, toxicology, and urinalysis tests on outpatients. Order entry error categories include requesting physician errors, incorrect and extra test orders, missing test orders and diagnosis codes, test priority errors, and copy or fax result errors.

This monitor excludes tests performed in transfusion medicine or anatomic pathology and also excludes tests from the following patient care settings: inpatient, emergency department, ambulatory surgery, urgent care, chest pain center, 23-hour short-stay facility, employee health department, outpatient screening fair/promotion, and dialysis center.

**Performance Indicators**
- Overall outpatient order entry error rate (%)
- Order entry error rates by type (%)

**Performance Breakdown**
- Breakdown of error types (%)

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
Test multiple instruments at one time—Quality Cross Check is not PT and not subject to CMS restrictions.

- Simplify biannual instrument comparability studies—receive customized reports that include peer group evaluations and instrument comparability statistics.
- Evaluate multiple instruments performing tests for a wide range of respiratory viruses, including influenza, RSV, and SARS-CoV-2 (ID3Q).
Perform instrument comparability and stay in compliance

Quality Cross Check is a convenient solution to monitor instrument performance and assess comparability across multiple instruments in your laboratory and to identify potential issues before they affect patient results.

How It Works

- Receive three challenges in each of two mailings a year.
- Report up to three instruments for each challenge (and report up to 30 instruments for Quality Cross Check—Whole Blood Glucose).
- Receive a custom report package that includes peer group comparison and instrument comparability statistics for each reported analyte.

Stay in Compliance

In August 2015, the Centers for Medicare & Medicaid Services (CMS) reiterated that laboratories are not permitted to test proficiency testing (PT) samples on multiple instruments unless that is how the laboratory tests patient specimens.

The CMS interpretation was expanded beyond regulated analytes to include analytes not listed in Subpart I of the Clinical Laboratory Improvement Amendments regulations, including waived methods.

Quality Cross Check complements your existing CAP programs to monitor multiple instrument performance and is compliant with the CMS directive.

Monitoring Performance of Glucose Meters

Beginning in 2017, PT for waived whole blood glucose on glucose meters was no longer required for laboratories accredited by the CAP. Laboratories are required to perform alternative performance assessment.

In response to this change, the CAP introduced the Quality Cross Check—Whole Blood Glucose program (WBGQ). Participants in this program will enjoy the benefits of Quality Cross Check and have the ability to report up to 30 instruments for each challenge.
General Chemistry and Therapeutic Drug Monitoring

Quality Cross Check—Chemistry and Therapeutic Drug Monitoring  CZQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZQ</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See program CZ analytes on pages 58-60

This program does not meet regulatory requirements for proficiency testing; see program CZ on pages 58-60. For additional information about the Quality Cross Check program, see page 40.

Quality Cross Check—B-Type Natriuretic Peptides  BNPQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNPQ</td>
<td>3</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program BNP or BNP5 on page 63. For additional information about the Quality Cross Check program, see page 40.

Quality Cross Check—Whole Blood Glucose  WBGQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>WBGQ</td>
<td>3</td>
</tr>
</tbody>
</table>

The CAP’s Accreditation Programs require all accredited laboratories performing waived whole blood glucose testing using glucose meters to perform alternative performance assessment. This program can be used to meet alternative performance assessment requirements.
### Quality Cross Check—Body Fluid Chemistry  FLDQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Amylase</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CA19-9</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Carcinoembryonic antigen (CEA)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program FLD on page 76. For additional information about the Quality Cross Check program, see page 40.

### Quality Cross Check—Hemoglobin A1c  GHQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1c</td>
<td>GHQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program GH5 on page 67. For additional information about the Quality Cross Check program, see page 40.

### Quality Cross Check—Cardiac Markers  CRTQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK-MB, immunochemical</td>
<td>CRTQ</td>
<td>3</td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Troponin I</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program CRT on page 64. For additional information about the Quality Cross Check program, see page 40.
Endocrinology

<table>
<thead>
<tr>
<th>Quality Cross Check—Parathyroid Hormone  PTHQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyte</td>
</tr>
<tr>
<td>Parathyroid hormone (PTH)</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program ING on page 90. For additional information about the Quality Cross Check program, see page 40.

Program Information
- Three 5.0-mL lyophilized serum specimens in duplicate
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

World-class recognition deserves to be displayed.

Let your peers, patients, and the public know you’ve earned the CAP accreditation certification mark.

Proudly display the mark. It distinguishes you as one of almost 8,000 laboratories worldwide that have attained CAP accreditation, the most respected and recognized laboratory accreditation in the world.
Blood Gas, Critical Care, and Oximetry

**Quality Cross Check—Blood Oximetry**  SOQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Hematocrit, estimated</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin, total</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Oxyhemoglobin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program SO on page 98. For additional information about the Quality Cross Check program, see page 40.

**Quality Cross Check—Blood Gas**  AQQ, AQ2Q, AQ3Q, AQ4Q

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, ionized</td>
<td>AQQ AQ2Q AQ3Q AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin, estimated</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>pCO₂</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>pO₂</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

It is not appropriate to report hemoglobin or hematocrit by co-oximetry in this program.

These programs do not meet regulatory requirements for proficiency testing; see programs AQQ and AQ2-AQ4 on page 96. For additional information about the Quality Cross Check program, see page 40.

**Program Information**
- Three 1.2-mL liquid specimens in triplicate
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

**Program Information**
- AQQ, AQ2Q - Three 2.5-mL specimens in triplicate and three 2.5-mL specimens for hematocrit testing in triplicate; appropriate for all methods except i-STAT®
- AQ3Q, AQ4Q - Three 1.7-mL specimens in triplicate for i-STAT methods only
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
## Hematology and Clinical Microscopy

### Quality Cross Check—Hematology

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hematocrit</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Immature granulocyte parameter</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Immature platelet function (IPF)%</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Large unstained cells (LUC)</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>MCV, MCH, MCHC</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>MPV</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Nucleated red blood cell count (nRBC)</td>
<td>✅</td>
<td></td>
</tr>
<tr>
<td>Platelet count</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>RDW</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Red blood cell count</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>WBC differential</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>White blood cell count</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing; see the FH Series on page 141. For additional information about the Quality Cross Check program, see page 40.

### Program Information
- FH3Q, FH4Q, FH9Q, FH13Q - Three 2.5-mL whole blood specimens in vials with pierceable caps
- Report up to three instruments
- For method compatibility, see instrument matrix on page 143
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
## Quality Cross Check—Reticulocyte

### RTQ, RT3Q, RT4Q

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott Alinity hq, Abbott Cell-Dyn 4000, Sapphire, Siemens ADVIA 120/2120, and all other automated and manual methods</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Coulter Gen-S™, Hmx, LH 500, LH 700 series, MAXM, STKS, UniCel DxH series</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Sysmex XE-2100, XE-2100C, XE-2100D, XE-2100DC, XE-2100L, XE-5000, XN-L series, XN-series (includes RL App), XT-2000i, XT-4000i</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing; see the RT Series on page 146. For additional information about the Quality Cross Check program, see page 40.

## Quality Cross Check—Urinalysis

### CMQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Blood or hemoglobin</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>hCG urine, qualitative</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Ketones</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Leukocyte esterase</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Nitrite</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Osmolality</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Protein, qualitative</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Reducing substances</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Urobilinogen</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see programs CMP and CMP1 on page 151. For additional information about the Quality Cross Check program, see page 40.
Quality Cross Check—Occult Blood  OCBQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult blood</td>
<td>OCBQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program OCB on page 157. For additional information about the Quality Cross Check program, see page 40.

Color Atlas of Hematology—Peripheral Blood

The second edition of *Color Atlas of Hematology* has now expanded to two volumes, with the addition of bone marrow pathology.

Volume 1 presents keen insights into peripheral blood pathology. Link to 18 engaging videos. View 100+ peripheral blood smears online with DigitalScope® technology.

Volume 2 is a useful and instructional reference guide to bone marrow pathology. Explore the detailed “A Closer Look At...” sections. Access the links to interactive slide images.

**Vol 1. Peripheral Blood**
*Item number:* PUB222 Hardcover; 480 pages; 2018

**Vol 2. Bone Marrow**
*Item number:* PUB229 Hardcover; 370 pages; 2022

**Add them to your order.**

Or, view sample pages and purchase online:
- printed books at estore.cap.org
Coagulation

Quality Cross Check—Coagulation  CGLQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGLQ</td>
<td>3</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Prothrombin time</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>D-dimer</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Fibrin(ogen) degradation products, plasma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fibrin(ogen) degradation products, serum</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program CGL on page 164. For additional information about the Quality Cross Check program, see page 40.

Program Information
- Three 1.0-mL lyophilized plasma specimens in triplicate, two 1.0-mL lyophilized plasma specimens, and one 2.0-mL serum specimen
- Report up to three instruments
- Two shipments per year

Quality Cross Check—Activated Clotting Time Series  CTQ, CT1Q, CT2Q, CT3Q, CT5Q

<table>
<thead>
<tr>
<th>Instrument/Cartridge</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CTQ</td>
<td>CT1Q</td>
</tr>
<tr>
<td>Helena Actalyke®</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron® CA510/FTCA510</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron FTK-ACT</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT+</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT-LR</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ITC Hemochron P214/P215</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>i-STAT Celite® and Kaolin ACT</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus® HR-ACT</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus LR-ACT</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus R-ACT</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Medtronic Hepcon HMS Plus</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing; see programs CT-CT3 and CT5 on page 168. For additional information about the Quality Cross Check program, see page 40.

Program Information
- CTQ - Three 3.0-mL lyophilized whole blood specimens in triplicate with corresponding diluents
- CT1Q - Three 1.7-mL lyophilized whole blood specimens in triplicate with corresponding diluents
- CT2Q - Three 0.5-mL lyophilized whole blood/diluent ampules in triplicate
- CT3Q - Three 0.5-mL lyophilized whole blood/diluent ampules in triplicate
- CT5Q - Three 1.7-mL lyophilized whole blood specimens in triplicate with corresponding diluents
- Report up to three instruments
- Two shipments per year
### Quality Cross Check—SARS-CoV-2 Molecular  COV2Q

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2</td>
<td>COV2Q</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program COV2 on page 203. For additional information about the Quality Cross Check program, see page 40.

### Quality Cross Check—SARS-CoV-2 Antigen  COVAQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 Antigen</td>
<td>COVAQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program COVAG on page 203. For additional information about the Quality Cross Check program, see page 40.

### Quality Cross Check—Nucleic Acid Amplification, Respiratory Limited  ID3Q

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A virus</td>
<td>ID3Q</td>
<td>3</td>
</tr>
<tr>
<td>Influenza B virus</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>SARS-CoV-2</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program ID3 on page 205. For additional information about the Quality Cross Check program, see page 40.
Immunology

Quality Cross Check—SARS-CoV-2 Serology  COVSQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 antibodies</td>
<td>COVSQ</td>
<td>3</td>
</tr>
<tr>
<td>(Total, IgG, IgM)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program COVS on page 222. For additional information about the Quality Cross Check program, see page 40.
Transfusion Medicine

Quality Cross Check—Transfusion Medicine  JATQ

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping</td>
<td>JATQ</td>
<td>3</td>
</tr>
<tr>
<td>Antibody detection</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Rh typing</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program JAT on page 231. For additional information about the Quality Cross Check program, see page 40.

Make critical transfusion decisions with confidence.

*Transfusion Medicine in the Hot Seat* is a valuable educational resource for pathology trainees and pathologists practicing transfusion medicine. The text presents a total of 26 realistic transfusion scenarios divided into three sections:

- Antibodies  
- Blood Components  
- Complications

The short-case format makes the information easily accessible and can serve as the basis for a transfusion medicine curriculum in clinical pathology.

Add it to your order.

Or, view sample pages and purchase online:

- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Item number: PUB224
Softcover; 123 pages; 2016
CAP Publications addresses the needs of pathologists and laboratory professionals with the highest quality books written and edited by recognized experts in pathology and laboratory medicine. Available in print and ebook format, here are the reasons to buy them.

- **Timely topics**—Books are authored by recognized experts in the book’s subject.
- **Readily accessible as an ebook**—You can choose the format that is most convenient for you.
- **View imagery, videos, and more**—Most books offer online resources access, too.
- **Try for free**—Receive a complimentary ebook edition of *The Pathologist in Court* when you sign up at ebooks.cap.org.

View sample pages and order online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org
Keep your point-of-care (POC) instruments and staff operating at peak performance.

• Improve waived test results with POC Competency Challenges that evaluate instrument and method performance, troubleshoot issues, assess staff competency, and provide training information.

• Gain insights with the Point-of-Care Testing Toolkit, an ebook resource for all members of the team.
Point-of-Care Programs

POC Competency Challenges help POC coordinators streamline operator education (initial training and ongoing competency). These programs include standardized specimens that can not only be used to train operators and assess competency, but also to evaluate/troubleshoot instrument and method performance for waived and non-waived tests.

Expected results will be provided. These programs are not proficiency testing programs and participants will not return results to the CAP.

POC Competency Challenges may have limited availability and stability.

<table>
<thead>
<tr>
<th>POC Competency Challenges</th>
<th>POC1, POC2, POC3, POC4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Name</td>
<td>Program Code</td>
</tr>
<tr>
<td>hCG Competency</td>
<td>POC1</td>
</tr>
<tr>
<td>Glucose Competency</td>
<td>POC2</td>
</tr>
<tr>
<td>Urine Dipstick Competency</td>
<td>POC3</td>
</tr>
<tr>
<td>Strep Screen Competency</td>
<td>POC4</td>
</tr>
</tbody>
</table>

Program Information
- POC1 - One positive 10.0-mL liquid urine specimen
- POC2 - One abnormal 2.0-mL whole blood specimen
- POC3 - One abnormal 10.0-mL liquid urine specimen
- POC4 - One 1.0-mL positive liquid specimen
- Each program provides material to test up to 10 staff
- Shipments available upon request

<table>
<thead>
<tr>
<th>POC Competency Challenges</th>
<th>POC6, POC7, POC8, POC9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Name</td>
<td>Program Code</td>
</tr>
<tr>
<td>PT/INR, Roche CoaguChek Pro II, XS Plus, and XS Pro Competency</td>
<td>POC6</td>
</tr>
<tr>
<td>Waived Chemistry, Glucose, and Hemoglobin Competency</td>
<td>POC7</td>
</tr>
<tr>
<td>Influenza A/B Antigen Detection Competency</td>
<td>POC8</td>
</tr>
<tr>
<td>Fecal Occult Blood Competency</td>
<td>POC9</td>
</tr>
</tbody>
</table>

Program Information
- POC6 - One abnormal 0.3-mL lyophilized plasma specimen (five vials) and five corresponding diluents
- POC7 - One abnormal 2.5-mL whole blood specimen compatible with the HemoCue® B, HemoCue 201, and Stanbio HemoPoint® H2 instruments
- POC8 - One 1.5-mL positive liquid specimen for influenza A; one 1.5-mL positive liquid specimen for influenza B
- POC9 - One positive 2.0-mL fecal specimen
- Each program provides material to test up to 10 staff
- Shipments available upon request
### POC Competency Challenges
POC10, POC11, POC12

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Gases Competency</td>
<td>POC10</td>
<td></td>
</tr>
<tr>
<td>Blood Gases, i-STAT® Competency</td>
<td>POC11</td>
<td>10</td>
</tr>
<tr>
<td>Point-of-Care Cardiac Markers Competency</td>
<td>POC12</td>
<td>10</td>
</tr>
</tbody>
</table>

**Program Information**
- **POC10** - One abnormal 2.5-mL aqueous blood gas specimen (10 vials) and one 2.5-mL hematocrit/hemoglobin specimen (10 vials)
- **POC11** - One abnormal 2.5-mL aqueous specimen (10 vials) for blood gas and hematocrit/hemoglobin testing
- **POC12** - One 1.5-mL plasma specimen (two vials); compatible with plasma-based tests, such as Alere Triage® and i-STAT instruments
- Each program provides material to test up to 10 staff
- Shipments available upon request

---

**Expand Your Expertise With Root Cause Analysis**

The QMED online course Root Cause Analysis was developed with pathologist input and is infused with real-world laboratory examples, giving you confidence in:
- Using root cause analysis tools
- Recognizing common pitfalls
- Performing key steps
- Applying best practices

Includes a unique Root Cause Analysis Toolkit, which helps to communicate best practices and provide feedback to project teams—with the goal of solving problems permanently.

See the Continuing Education section.
Add QMEDROOT to your order.

**“WOW! Very impressive training module. Probably the best self-taught module I have seen in years. Very systematic, very visual, very easy to follow ... staying with tried and true textbook of Root Cause Analysis.”**

Jim Ellis
Managing Partner
MME Consulting, LLC
### POC Competency Challenges
**POC14, POC15, POC16**

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medtronic ACT/ACT Plus®, i-STAT Competency</td>
<td>POC14</td>
<td>5</td>
</tr>
<tr>
<td>Hemochron® Jr., IL GEM PCL ACT-LR Competency</td>
<td>POC15</td>
<td>5</td>
</tr>
<tr>
<td>Hemochron Jr., Signature, IL GEM PCL ACT Competency</td>
<td>POC16</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- **POC14** - Five abnormal 1.7-mL lyophilized whole blood specimens with five corresponding diluents and one calcium chloride diluent vial; compatible with Medtronic Hemotec ACT/ACTII/ACT Plus, Medtronic Hepcon HMS/HMS Plus, and i-STAT Celine and Kaolin ACT
- **POC15** - Five abnormal 0.5-mL lyophilized whole blood/diluent ampules; compatible with IL GEM PCL Plus ACT-LR and ITC Hemochron Jr., Signature ACT-LR
- **POC16** - Five abnormal 0.5-mL lyophilized whole blood/diluent ampules; compatible with IL GEM PCL Plus ACT and ITC Hemochron Jr., Signature ACT+
- Each program provides material to test up to five staff
- Shipments available upon request
When you transmit quantitative PT results directly to the CAP, less equals more.

- Spend less time manually entering PT results and more time on other priorities.
- Reduce clerical errors and make the PT process more like patient testing.
- Learn more about reporting your PT results using direct transmission at cap.org.

General Chemistry and Therapeutic Drug Monitoring

Program Changes

Plasma Cardiac Markers (PCARM/PCARMX) is now called Point-of-Care Cardiac Markers
## General Chemistry and Therapeutic Drugs

C1, C3/C3X, C4, CZ/CZX/CZ2X, Z

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alanine aminotransferase (ALT/SGPT)</td>
<td>C1 C3/C3X C4</td>
<td>5</td>
</tr>
<tr>
<td>Albumin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Amylase</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Aspartate aminotransferase (AST/SGOT)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Bilirubin, total*</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Cholesterol, total</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Cortisol</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Creatine kinase (CK)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), quantitative</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Iron</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>LDL cholesterol, measured</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Lipoprotein (a)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Pancreatic amylase</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Protein, total</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Triiodothyronine (T3), free</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Triiodothyronine (T3), total</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>T3, uptake and related tests</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Continued on the next page

*General Chemistry and Therapeutic Drugs programs do not fulfill the neonatal bilirubin proficiency testing requirements for the CAP Accreditation Programs. See programs NB, NB2, on page 69.

---

### Program Information

- C1, C3, C4, CZ, Z - Five 5.0-mL liquid serum specimens
- C3X, CZX - Five 5.0-mL liquid serum specimens in duplicate
- CZ2X - Five 5.0-mL liquid serum specimens in triplicate
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
- For multiple instrument reporting options, see the Quality Cross Check program, CZQ, on page 60
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thyroxine (T4), free</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Thyroxine (T4), total</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Uric acid</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Acid phosphatase</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Ammonia</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Apolipoprotein A1</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Apolipoprotein B</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Carbon dioxide (CO₂)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Ferritin</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Gamma glutamyl transferase (GGT)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Iron binding capacity, total (measured)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Iron binding capacity, unsaturated (measured)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lactate</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lipase</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Osmolality</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Phosphorus (inorganic)</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Prealbumin</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Transferrin</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Lithium</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Amikacin</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Caffeine</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Carbamazepine, free</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Digoxin</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Digoxin, free</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Disopyramide</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
</tbody>
</table>

Program Information
- C1, C3, C4, CZ, Z - Five 5.0-mL liquid serum specimens
- C3X, CZX - Five 5.0-mL liquid serum specimens in duplicate
- CZ2X - Five 5.0-mL liquid serum specimens in triplicate
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
- For multiple instrument reporting options, see the Quality Cross Check program, CQ, on page 60

Continued on the next page
### General Chemistry and Therapeutic Drugs

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethosuximide</td>
<td>C1 C3/C3X C4 CZ/CZX/CZ2X Z</td>
<td>5</td>
</tr>
<tr>
<td>Gentamicin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Lidocaine</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Methotrexate</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Phenytoin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Primidone</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Procainamide</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Quinidine</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Salicylate</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Theophylline</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Tobramycin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Valproic acid</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Valproic acid, free</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Vancomycin</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

### Quality Cross Check—Chemistry and Therapeutic Drug Monitoring  CZQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>See program CZ analytes on pages 58-60</td>
<td>CZQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program CZ on pages 58-60. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

### Program Information
- C1, C3, C4, CZ, Z - Five 5.0-mL liquid serum specimens
- C3X, CZX - Five 5.0-mL liquid serum specimens in duplicate
- CZ2X - Five 5.0-mL liquid serum specimens in triplicate
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
- For multiple instrument reporting options, see the Quality Cross Check program, CZQ, below

### Program Information
- Three 5.0-mL liquid serum specimens in duplicate
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Harmonized Thyroid ABTH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triiodothyronine (T3), free</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Triiodothyronine (T3), total</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroxine (T4), free</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroxine (T4), total</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>ABTH</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- Analytes will be evaluated using harmonization.

### CAP/AACC Immunosuppressive Drugs CS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporine</td>
<td>CS</td>
<td>3</td>
</tr>
<tr>
<td>Sirolimus (rapamycin)</td>
<td>CS</td>
<td>3</td>
</tr>
<tr>
<td>Tacrolimus</td>
<td>CS</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 5.0-mL whole blood specimens
- For laboratories monitoring cyclosporine, sirolimus, and tacrolimus in transplant patients
- Two shipments per year

### Antifungal Drugs Monitoring AFD

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluconazole</td>
<td>AFD</td>
<td>3</td>
</tr>
<tr>
<td>Itraconazole</td>
<td>AFD</td>
<td>3</td>
</tr>
<tr>
<td>Posaconazole</td>
<td>AFD</td>
<td>3</td>
</tr>
<tr>
<td>Voriconazole</td>
<td>AFD</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL serum specimens
- For laboratories performing quantitative analysis of antifungal agents
- Two shipments per year
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everolimus EV</td>
<td>EV</td>
<td></td>
</tr>
<tr>
<td>Everolimus</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycophenolic Acid MPA</td>
<td>MPA</td>
<td></td>
</tr>
<tr>
<td>Mycophenolic acid</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapeutic Drug Monitoring—Extended ZE</td>
<td>ZE</td>
<td></td>
</tr>
<tr>
<td>Clozapine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Gabapentin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lacosamide</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lamotrigine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Levetiracetam</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Oxcarbazepine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Oxcarbazepine metabolite</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Pregabalin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Rufinamide</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Teriflunomide</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Topiramate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Zonisamide</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapeutic Drug Monitoring—Special ZT</td>
<td>ZT</td>
<td></td>
</tr>
<tr>
<td>Amitriptyline</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Desipramine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Imipramine</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Tricyclics, total (qualitative/quantitative)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 4.0-mL whole blood specimens
- Two shipments per year

Program Information
- Three 5.0-mL lyophilized serum specimens
- Two shipments per year

Program Information
- Three 5.0-mL serum specimens
- Two shipments per year

Program Information
- Three 5.0-mL lyophilized serum specimens
- Two shipments per year
### Accuracy-Based Lipids  ABL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apolipoprotein A1*</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Apolipoprotein B*</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Cholesterol*</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>HDL cholesterol*</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Non-HDL cholesterol</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Lipoprotein(a)</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides*</td>
<td>ABL</td>
<td>3</td>
</tr>
</tbody>
</table>

*This analyte will be evaluated against the reference method.

### B-Type Natriuretic Peptides  BNP, BNP5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNP</td>
<td>2</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td>BNP5</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Additional Information
- The CAP's Accreditation Programs require all accredited laboratories performing non-waived testing for BNP and NT-proBNP to complete 15 PT challenges per year.
- For i-STAT®, Quidel Triage, and Pathfast, use Point-of-Care Cardiac Markers programs PCARM or PCARMX.
- For second instrument reporting options, see the Quality Cross Check program, BNPQ, below.

### Quality Cross Check—B-Type Natriuretic Peptides  BNPQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNPQ</td>
<td>3</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program BNP or BNP5 above. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.  

### Program Information
- **Accuracy-Based Lipids ABL**
  - Three 1.0-mL human serum specimens
  - Conventional and International System of Units (SI) reporting offered
  - Two shipments per year

- **B-Type Natriuretic Peptides BNP, BNP5**
  - BNP - Two 1.0-mL liquid plasma specimens
  - Conventional and International System of Units (SI) reporting offered; two shipments per year
  - BNP5 - Five 1.0-mL liquid plasma specimens
  - Conventional and International System of Units (SI) reporting offered; three shipments per year

- **Quality Cross Check—B-Type Natriuretic Peptides BNPQ**
  - Three 1.5-mL liquid specimens
  - Report up to three instruments
  - Conventional and International System of Units (SI) reporting offered
  - Two shipments per year
# Cardiac Markers CRT, CRTI, HCRT, HCRTI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK-MB, immunochemical</td>
<td>CRT CRTI HCRT HCRTI</td>
<td>5</td>
</tr>
<tr>
<td>CK isoenzymes (CK-BB, CK-MB, CK-MM), electrophoretic</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>LD1, LD2, LD3, LD4, LD5, electrophoretic</td>
<td>CRT CRTI HCRT HCRTI</td>
<td>5</td>
</tr>
<tr>
<td>LD1/LD2 ratio calculation and interpretation</td>
<td>CRT CRTI HCRT HCRTI</td>
<td>5</td>
</tr>
<tr>
<td>Myoglobin</td>
<td>CRT CRTI HCRT HCRTI</td>
<td>2</td>
</tr>
<tr>
<td>Troponin I</td>
<td>CRT</td>
<td>5</td>
</tr>
<tr>
<td>Troponin T</td>
<td>CRT</td>
<td>5</td>
</tr>
<tr>
<td>High-sensitivity troponin I</td>
<td>CRT</td>
<td>5</td>
</tr>
<tr>
<td>High-sensitivity troponin T</td>
<td>CRT</td>
<td>5</td>
</tr>
</tbody>
</table>

## Program Information
- CRT - Five 2.0-mL liquid specimens
- CRTI - Ten 2.0-mL liquid specimens
- HCRT - Five 2.0-mL liquid specimens
- HCRTI - Ten 2.0-mL liquid specimens
- Three shipments per year
Quality Cross Check—Cardiac Markers  CRTQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK-MB, immunochemical</td>
<td>CRTQ</td>
<td>3</td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Troponin I</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program CRT on page 64. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

So You’re Going to Collect a Blood Specimen

Up to 70% of laboratory errors occur prior to sample analysis and testing. Ensure everyone on your team is equipped to procure a quality blood specimen with this modern update to the classic reference guide.

- Step-by-step instructions for venipuncture, skin puncture, and infant heelstick
- Best practices for collection, transporting, processing, and storage
- Procedures for blood smears, blood cultures, and neonatal screening
- Special considerations for the difficult venipuncture
- Ways to inspire confidence in your patient

Buy multiple copies and save. Call 800-323-4040 Option 1 (Country Code 1).

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Program Information
- Three 2.0-mL liquid serum specimens
- Report up to three instruments
- Two shipments per year
Patients presenting to the emergency department (ED) with chest pain must be evaluated quickly. Rapid serum troponin measurement is an important part of ED practice that can provide decisive information for patient management. Reducing delays in troponin testing has been reported to result in shorter length of stay in the ED and more rapid initiation of anti-ischemic treatment. EDs and chest pain centers should, therefore, have effective procedures for ensuring optimal turnaround time (TAT) for troponin testing and a process for ongoing monitoring to ensure that performance meets expectations.

QT15 has multiple time intervals to help pinpoint process time challenges. Laboratories may use this monitor to help meet CAP Laboratory Accreditation Program Checklist statement GEN.20316 QM Indicators of Quality. The American College of Cardiology and the American Heart Association recommend troponin as the preferred diagnostic biomarker in their Acute Coronary Syndromes guideline.

Objectives
This study will assist participating laboratories to determine and monitor:

- The median TATs for processes from order time through result availability, with up to five time intervals within the total testing process
- The percent compliance for troponin results with their institution's established deadline

Data Collection
Six days per month, collect data from nine patients presenting to the ED with chest pain and tested for troponin level. Data includes time of troponin test order, specimen collection, laboratory receipt, and result availability. Participants are not required to provide data from each TAT component. Participants will select TAT metrics that they wish to monitor, with the option to monitor all metrics.

Participants will also complete a questionnaire about clinical and laboratory practices related to troponin testing.

Performance Indicators
Median TATs for the following time intervals:

- Test order to specimen collection
- Specimen collection to laboratory receipt
- Laboratory receipt to result availability
- Specimen collection to result availability
- Test order to result availability

Compliance (%) with institutional threshold for the following time intervals:

- Specimen collection to result availability
- Test order to result availability

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
Hemoglobin A₁c  GH2, GH5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>GH2</td>
</tr>
<tr>
<td></td>
<td>GH5</td>
</tr>
<tr>
<td>Hemoglobin A₁c</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Additional Information

- These programs will be evaluated against the National Glycohemoglobin Standardization Program (NGSP) reference method.
- The CAP’s Accreditation Programs require all accredited laboratories performing non-waived testing for Hemoglobin A₁c to complete 15 PT challenges per year.
- For multiple instrument reporting options, see the Quality Cross Check program, GHQ, below.
- These programs have limited stability. Laboratories outside the US or Canada should consider purchase of GH5I, which has longer stability.

Quality Cross Check—Hemoglobin A₁c  GHQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GHQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program GH5, above. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:

- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

Hemoglobin A₁c  GH5I

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GH5I</td>
<td>5</td>
</tr>
</tbody>
</table>

Additional Information

- This program meets the proficiency testing requirements for the CAP’s Accreditation Programs.
- This program will not be evaluated against the National Glycohemoglobin Standardization Program (NGSP) reference method. See program GH5 to be evaluated against the NGSP reference method.
### Glycated Serum Albumin (GSA)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycated serum albumin</td>
<td>GSA</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid serum specimens
- Two shipments per year

### High-Sensitivity C-Reactive Protein (HSCRP)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity C-reactive protein</td>
<td>HSCRP</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL liquid serum specimens
- Two shipments per year

### Homocysteine (HMS)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homocysteine</td>
<td>HMS</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL serum specimens
- Two shipments per year

### Ketones (KET)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-hydroxybutyrate</td>
<td>KET</td>
<td>2</td>
</tr>
<tr>
<td>Total ketones</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 2.0-mL serum specimens
- For semi-quantitative methods using the nitroprusside reaction for total ketones testing
- Two shipments per year

### Chemistry—Limited, Waived (LCW)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 3.0-mL liquid serum specimens
- For use with waived methods such as the Cholestech LDX® and Roche Accu-Chek® Instant Plus
- The glucose specimens are not appropriate for use on other whole blood glucose meters
- Two shipments per year
### Neonatal Bilirubin  
**NB, NB2**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NB</td>
<td>NB2</td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bilirubin, total</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

One human-based serum specimen will offer the value assigned using the reference method procedure (Clin Chem. 1985;31:1779-1789).

### Point-of-Care Cardiac Markers  
**PCARM/PCARMX**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PCARM</td>
<td>PCARMX</td>
</tr>
<tr>
<td>BNP</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>CK-MB</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>D-dimer</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Myoglobin</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>NT-proBNP</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Troponin I</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

### Plasma Cardiac Markers International  
**PCARI**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troponin I</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Whole Blood Chemistry Compatibility Matrix

<table>
<thead>
<tr>
<th>Whole Blood Analyzer/Method</th>
<th>Analyte</th>
<th>Compatible Survey Programs</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>HemoCue®</td>
<td>Glucose</td>
<td>HCC</td>
<td>70</td>
</tr>
<tr>
<td>Roche Reflotron®</td>
<td>Cholesterol</td>
<td>C1, C4</td>
<td>58-60</td>
</tr>
<tr>
<td></td>
<td>Glucose</td>
<td>58-60</td>
<td></td>
</tr>
<tr>
<td>Cholestech LDX®</td>
<td>Total cholesterol</td>
<td>LCW</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>HDL cholesterol</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Triglycerides</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Glucose</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Whole blood cholesterol meters</td>
<td>Cholesterol</td>
<td>C1, C4, LCW</td>
<td>58-60, 68</td>
</tr>
<tr>
<td>Whole blood glucose meters</td>
<td>Glucose</td>
<td>HCC2, WBGQ</td>
<td>70-71</td>
</tr>
<tr>
<td>Nova StatSensor®/StatSensor Xpress™</td>
<td>Creatinine</td>
<td>WBCR</td>
<td>71</td>
</tr>
</tbody>
</table>

Program Information

- HCC - Two 2.5-mL whole blood specimens; two shipments per year
- Conventional and International System of Units (SI) reporting offered
- HCC2 - Total of four shipments per year
  - Hematocrit, hemoglobin, and urinalysis/urine hCG testing - Two 3.0-mL whole blood specimens and two 10.0-mL urine specimens; two shipments per year: A and C
  - Whole blood glucose testing - Three 2.0-mL whole blood specimens; two shipments per year: B and D
- To verify instrument compatibility, refer to the instrument matrix above
Whole Blood Creatinine  WBCR

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>WBCR</td>
<td>5</td>
</tr>
</tbody>
</table>

Quality Cross Check—Whole Blood Glucose  WBGQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glucose</td>
<td>WBGQ</td>
<td>3</td>
</tr>
</tbody>
</table>

The CAP’s Accreditation Programs require all accredited laboratories performing waived whole blood glucose testing using glucose meters to perform alternative performance assessment. This program can be used to meet alternative performance assessment requirements.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:
- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

Chemistry/TDM, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Program</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry/TDM</td>
<td>CZVM</td>
<td>CZ</td>
<td>58-60</td>
</tr>
</tbody>
</table>
## Urine Chemistry

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Urine Chemistry—General  U

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylase</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Magnesium</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nitrogen, total</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Osmolality</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Uric acid</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin, quantitative</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin:creatinine ratio</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information

- Six 15.0-mL urine specimens
- One mailing per year will include an additional educational specimen for uric acid testing for a total of seven challenges per year
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Accuracy-Based Urine  ABU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin, quantitative</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin:creatinine ratio</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information

- Three 5.0-mL human urine specimens
- Two shipments per year
### Kidney Stone Risk Assessment  **KSA**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrate</td>
<td>KSA</td>
<td>3</td>
</tr>
<tr>
<td>Cystine</td>
<td>KSA</td>
<td>3</td>
</tr>
<tr>
<td>Oxalate</td>
<td>KSA</td>
<td>3</td>
</tr>
</tbody>
</table>

### Urine Chemistry—Special  **N/NX**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-methoxytyramines</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>5-hydroxyindoleacetic acid</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>17-hydroxycorticosteroids</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>17-ketosteroids</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Aldosterone</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Coproporphyrins</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Cortisol, urinary free</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Dopamine</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Epinephrine</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Homovanillic acid</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Metanephrine</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Norepinephrine</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Normetanephrine</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Uroporphyrin</td>
<td>N/NX</td>
<td>3</td>
</tr>
<tr>
<td>Vanillylmandelic acid</td>
<td>N/NX</td>
<td>3</td>
</tr>
</tbody>
</table>

### Myoglobin, Urine  **MYG**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myoglobin, urine, qualitative and quantitative</td>
<td>MYG</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- **KSA**: Three 13.5-mL liquid urine specimens
- **N/NX**: N - Six 10.0-mL lyophilized urine specimens and three 10.0-mL liquid urine specimens
  - NX - All lyophilized program N specimens in duplicate and three 10.0-mL liquid urine specimens
- Two shipments per year

**Program Information**
- **MYG**: Two 1.0-mL urine specimens
- Two shipments per year
Urine Chemistry

Porphobilinogen, Urine  UPBG

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porphobilinogen</td>
<td>UPBG</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 5.0-mL urine specimens
- For use with qualitative and quantitative methods
- Two shipments per year

Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:
- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

Urine Chemistry—General, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Chemistry</td>
<td>UVM</td>
<td>U</td>
<td>72</td>
</tr>
</tbody>
</table>

Program Information
- Six 15.0-mL urine specimens
- One mailing per year will include an additional specimen for uric acid testing

The CAP is your trusted calibration verification and linearity partner, offering a comprehensive menu of programs for diagnostic confidence.

- **Expedited results**—View your linearity evaluation for most CVL programs within two business days of data submission.
- **Customized report package**—Let our team of biostatisticians perform the statistical analysis of your results so you do not have to.
- **Objective Assessment**—Maximize confidence in instrument calibration by using peer group data for a view beyond your laboratory.

See the Instrumentation Verification Tools section of this catalog to determine programs that best fit your laboratory’s CVL needs.
## Special Chemistry

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,5-Anhydroglucitol</td>
<td>AG</td>
<td>3</td>
</tr>
<tr>
<td>1,5-anhydroglucitol</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Three 1.0-mL liquid serum specimens
- Two shipments per year

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldolase</td>
<td>ADL</td>
<td>2</td>
</tr>
<tr>
<td>Aldolase</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

### Program Information
- Two 3.0-mL liquid serum specimens
- Two shipments per year

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiotensin Converting Enzyme</td>
<td>ACE</td>
<td>2</td>
</tr>
<tr>
<td>Angiotensin converting enzyme, quantitative</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

### Program Information
- Two 2.0-mL lyophilized serum specimens
- Two shipments per year
Body Fluid Chemistry  FLD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Amylase</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CA19-9</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Lactate</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Protein, total</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Triglycerides</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, FLDQ, on page 77.

Body Fluids Benchtop Reference Guide

- Thirty-six color images, including common and rare cells, crystals, and other cell inclusions
- Detailed descriptions of each cell including facts, cell morphology, and inclusions
- Nine tabbed sections for easy reference
  - Erythroid Series
  - Lymphoid Series
  - Myeloid Series
  - Mononuclear Phagocytic Series
  - Lining Cells
  - Miscellaneous Cells
  - Crystals
  - Microorganisms
  - Miscellaneous Findings
- A durable and water-resistant format to withstand years of benchtop use—5” x 6½”

Add it to your order.

Or, view sample pages and purchase online:
  - printed books at estore.cap.org
  - ebooks at ebooks.cap.org

Item number: BFBRG
Spiral bound; 42 pages; 36 images; 2013

Program Information
- Three 3.0-mL simulated liquid body fluid specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Quality Cross Check—Body Fluid Chemistry  FLDQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Amylase</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>CA19-9</td>
<td>FLDQ</td>
<td>1</td>
</tr>
<tr>
<td>Carcinoembryonic antigen (CEA)</td>
<td>FLDQ</td>
<td>1</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>FLDQ</td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>FLDQ</td>
<td>1</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program FLD on page 76. For additional information about the Quality Cross Check program, see page 40.

**The Quality Cross Check Program:**
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

### Body Fluid Chemistry 2  FLD2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkaline phosphatase</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Bilirubin</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Lipase</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td>FLD2</td>
<td>3</td>
</tr>
<tr>
<td>Uric acid</td>
<td>FLD2</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 3.0-mL simulated liquid body fluid specimens in duplicate
- Report up to three instruments
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Cadmium CD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-2-microglobulin, urine</td>
<td>CD</td>
<td>3</td>
</tr>
<tr>
<td>Cadmium, urine</td>
<td>CD</td>
<td>3</td>
</tr>
<tr>
<td>Cadmium, whole blood</td>
<td>CD</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>CD</td>
<td>3</td>
</tr>
</tbody>
</table>

This program meets the Occupational Safety and Health Administration (OSHA) guidelines for proficiency testing (OSHA standard-29 CFR 1910.1027AppF).

### Cerebrospinal Fluid Chemistry and Oligoclonal Bands M, OLI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin, quantitative</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>Electrophoresis (albumin and gamma globulin)</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>IgG, quantitative</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td>M, OLI</td>
<td>3</td>
</tr>
<tr>
<td>Oligoclonal bands</td>
<td>M, OLI</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- M - Three 5.0-mL simulated liquid spinal fluid specimens
- OLI - Three 5.0-mL simulated liquid spinal fluid specimens and three 1.0-mL paired serum specimens; CSF IgG index and synthesis rate calculation challenges for each paired specimen and one online educational pattern interpretation each mailing
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Cystatin C CYS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cystatin C</td>
<td>CYS</td>
<td>2</td>
</tr>
</tbody>
</table>

Program Information
- Two 1.0-mL liquid serum specimens
- Two shipments per year
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fecal Calprotectin FCAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fecal calprotectin</td>
<td>FCAL</td>
<td>3</td>
</tr>
<tr>
<td><strong>Fecal Fat FCFS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td>2</td>
</tr>
<tr>
<td><strong>Fructosamine FT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fructosamine</td>
<td>FT</td>
<td>2</td>
</tr>
<tr>
<td><strong>Glucose-6-Phosphate Dehydrogenase G6PDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G6PD, qualitative and quantitative</td>
<td>G6PDS</td>
<td>2</td>
</tr>
<tr>
<td><strong>Lipoprotein-Associated Phospholipase A2 PLA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipoprotein-associated phospholipase (Lp-PLA₂) activity</td>
<td>PLA</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-g simulated fecal specimens
- Two shipments per year

**Program Information**
- Two 10.0-g simulated fecal fat specimens
- For microscopic detection of neutral fats (triglycerides) and/or split fats (total free fatty acids)
- Two shipments per year

**Program Information**
- Two 1.0-mL liquid serum specimens
- Two shipments per year

**Program Information**
- Two 0.5-mL lyophilized hemolysate specimens
- Two shipments per year

**Program Information**
- Two 2.0-mL lyophilized serum
- Two shipments per year
### Lipoprotein and Protein Electrophoresis  
**LPE, SPE, UBJP**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipoprotein electrophoresis</td>
<td>LPE</td>
<td>2</td>
</tr>
<tr>
<td>IgA, quantitation</td>
<td>SPE</td>
<td>2</td>
</tr>
<tr>
<td>IgG, quantitation</td>
<td>SPE</td>
<td>2</td>
</tr>
<tr>
<td>IgM, quantitation</td>
<td>SPE</td>
<td>2</td>
</tr>
<tr>
<td>M-component (Paraprotein) identification</td>
<td>LPE</td>
<td>2</td>
</tr>
<tr>
<td>Protein, total</td>
<td>LPE</td>
<td>2</td>
</tr>
<tr>
<td>Protein electrophoresis, serum</td>
<td>LPE</td>
<td>2</td>
</tr>
<tr>
<td>Urine Bence Jones protein</td>
<td>UBJP</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- **LPE** - Two 1.0-mL liquid serum specimens
- **SPE** - Two 1.0-mL lyophilized serum specimen; one online educational protein electrophoresis challenge per mailing
- **UBJP** - Two 10.0-mL urine specimens
- Two shipments per year

### Lamellar Body Count  
**LBC**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamellar body count</td>
<td>LBC</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL simulated amniotic fluid specimens
- For use with LBC methods performed on all hematology analyzers
- Two shipments per year

### Plasma Hemoglobin  
**PHG**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma hemoglobin</td>
<td>PHG</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 2.0-mL liquid specimens
- Two shipments per year
### Procalcitonin  PCT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procalcitonin</td>
<td>PCT</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Information
- Three 1.0-mL lyophilized serum specimens
- Two shipments per year

### Pseudocholinesterase  C7

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudocholinesterase</td>
<td>C7</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Program Information
- One 2.0-mL lyophilized serum specimen
- Three shipments per year

### Salivary Cortisol  SALC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salivary cortisol</td>
<td>SALC</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Information
- Three 2.0-mL synthetic oral fluid specimens
- Two shipments per year

### Accuracy-Based Testosterone, Estradiol  ABS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Cortisol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Estradiol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA), total</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Testosterone</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Information
- Three 1.0-mL human serum specimens
- Two shipments per year

---

The Centers for Disease Control and Prevention (CDC) will set target values for testosterone and estradiol using the established reference methods.
### Total Bile Acids  TBLA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bile acids</td>
<td>TBLA</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 5.0-mL liquid serum specimens
- Two shipments per year

### Trace Metals  R

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Manganese</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 6.0-mL liquid serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Trace Metals, Urine  TMU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Arsenic</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Cobalt</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Manganese</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Thallium</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 25.0-mL urine specimens
- Conventional and International System of Units (SI) reporting offered
- For laboratories that monitor trace metals at normal and toxic levels
- Two shipments per year
### Trace Metals, Whole Blood  TMWB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Arsenic, total</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cobalt</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Copper</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Manganese</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Selenium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thallium</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Zinc</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Sweat Analysis Series  SW1, SW2, SW4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloride</td>
<td>SW1, SW2, SW4</td>
<td>3</td>
</tr>
<tr>
<td>Conductivity</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

For method compatibility, see chart below.

### Sweat Analysis Series Compatibility Matrix

<table>
<thead>
<tr>
<th>Method/Procedure</th>
<th>Program Code</th>
<th>Materials Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orion direct electrode</td>
<td>SW1, SW2, SW4</td>
<td>Precut 2-cm diameter Whatman filter papers</td>
</tr>
<tr>
<td>Wescor Macroduct™ and Nanoduct® Systems</td>
<td></td>
<td>22-gauge blunt-tipped needles</td>
</tr>
<tr>
<td>All other methodologies</td>
<td></td>
<td>No additional materials provided</td>
</tr>
</tbody>
</table>

### Program Information
- Three 6.0-mL whole blood specimens
- Conventional and International System of Units (SI) reporting offered
- For laboratories that monitor trace metals at normal and toxic levels
- Two shipments per year

### Program Information
- SW1, SW2, SW4 - Three 5.0-mL simulated liquid human sweat specimens
- Two shipments per year
**Viscosity V**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>V</td>
<td>2</td>
</tr>
</tbody>
</table>

**Soluble Transferrin Receptor STFR**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble transferrin receptor (sTfR)</td>
<td>STFR</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 10.0-mL serum specimens
- Two shipments per year

**Program Information**
- Three 2.5-mL liquid human serum specimens
- Two shipments per year

**Improve the reliability of your patient results with CAP Survey Validated Materials**

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

**Cerebrospinal Fluid, Validated Material**

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebrospinal Fluid</td>
<td>MVM</td>
<td>M</td>
<td>78</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 5.0-mL simulated liquid spinal fluid specimens
Gain more value from your accreditation program.

CAP accreditation is more than “something to check off your list.” It is an opportunity to help keep your laboratory operating at peak performance.

- The CAP offers educational material and support, including highly-trained medical technologists who are available to answer questions.
- The peer inspection model helps participants develop meaningful connections, learn from each other, and share best practices.
## Endocrinology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Ligand—General  K/KK

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-fetoprotein (AFP)</td>
<td>K/KK</td>
<td>5</td>
</tr>
<tr>
<td>Carcinoembryonic antigen (CEA)</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Cortisol</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Ferritin</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Folate, serum</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), quantitative</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Immunoglobulin E (IgE)</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA), total</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>p2PSA</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Prostate-specific antigen, complexed (cPSA)</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA), free</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Prostatic acid phosphatase (PAP)</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Triiodothyronine (T3), free</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Triiodothyronine (T3), total</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>T3 uptake and related tests</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Thyroxine (T4), free</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Thyroxine (T4), total</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>K</td>
<td>5</td>
</tr>
<tr>
<td>Vitamin B_{12}</td>
<td>K</td>
<td>5</td>
</tr>
</tbody>
</table>

### MMA and Active B_{12}  MMA

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active vitamin B_{12}</td>
<td>K</td>
<td>3</td>
</tr>
<tr>
<td>Methylmalonic acid</td>
<td>K</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information

- **K** - Five 5.0-mL liquid serum specimens
- **KK** - Five 5.0-mL liquid serum specimens in duplicate
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

- Three 1.0-mL lyophilized serum specimens
- Two shipments per year
B-Type Natriuretic Peptides  BNP, BNP5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNP</td>
<td>2</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td>BNP5</td>
<td>2</td>
</tr>
</tbody>
</table>

Additional Information
- The CAP’s Accreditation Programs require all accredited laboratories performing non-waived testing for BNP and NT-proBNP to complete 15 PT challenges per year.
- For i-STAT®, Quidel Triage, and Pathfast, use Point-of-Care Cardiac Markers programs PCARM or PCARMX.
- For second instrument reporting options, see the Quality Cross Check program, BNPQ, below.

Quality Cross Check—B-Type Natriuretic Peptides  BNPQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>BNPQ</td>
<td>3</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td>BNPQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program BNP or BNP5, above. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

Program Information
- BNP - Two 1.0-mL liquid plasma specimens
- Conventional and International System of Units (SI) reporting offered; two shipments per year
- BNP5 - Five 1.0-mL liquid plasma specimens
- Conventional and International System of Units (SI) reporting offered; three shipments per year
### Sex Hormones  Y/YY, DY

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-deoxycortisol</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>17-hydroxyprogesterone</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Androstenedione</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>DHEA sulfate</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Estradiol</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Estradiol, unconjugated (uE3)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Growth hormone (GH)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>IGF-1 (somatomedin C)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Progesterone</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Prolactin</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, bioavailable (measured)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, free (measured)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
</tbody>
</table>

### Antimüllerian Hormone  AMH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimüllerian hormone</td>
<td>AMH</td>
<td>3</td>
</tr>
</tbody>
</table>

### 25-OH Vitamin D, Total  VITD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D, total</td>
<td>VITD</td>
<td>3</td>
</tr>
</tbody>
</table>
### Bone and Growth  **BGS**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGF-1 (somatomedin C)</td>
<td>BGS</td>
<td>3</td>
</tr>
<tr>
<td>Osteocalcin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Accuracy-Based Vitamin D  **ABVD**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D (D2 and D3)</td>
<td>ABVD</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- The Centers for Disease Control and Prevention (CDC) will establish reference targets using isotope-dilution LC-MS/MS method.

### Bone and Mineral Metabolism, Urine  **BU**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-telopeptide (CTx)</td>
<td>BU</td>
<td>2</td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Deoxypyridinoline (DPD)</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>N-telopeptide (NTx)</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Bone Markers and Vitamins
**BMV1, BMV2, BMV3, BMV4, BMV5, BMV6**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>BMV1</th>
<th>BMV2</th>
<th>BMV3</th>
<th>BMV4</th>
<th>BMV5</th>
<th>BMV6</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,25-dihydroxy vitamin D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Bone-specific alkaline phosphatase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Vitamin A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Vitamin E, total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>C-telopeptide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>N-telopeptide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Insulin, Gastrin, C-Peptide, and PTH
**ING**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>ING</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-peptide</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Gastrin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Parathyroid hormone (PTH)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Accuracy-Based Glucose, Insulin, and C-Peptide
**ABGIC**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>ABGIC</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-peptide</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Additional Information
- Target values are based upon the isotope-dilution gas chromatography-mass spectrometry reference measurement procedure for glucose performed by the CDC Reference Laboratory, Division of Laboratory Sciences, Centers for Disease Control and Prevention (Atlanta, GA).
- Target values for C-peptide are established by isotope-dilution mass spectrometry, performed at the University of Missouri, Diabetes Diagnostic Laboratory.
Quality Cross Check—Parathyroid Hormone  PTHQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parathyroid hormone (PTH)</td>
<td>PTHQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program ING on page 90. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

Second Trimester Maternal Screening  FP/FPX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-fetoprotein (AFP), amniotic fluid</td>
<td>FP/FPX</td>
<td>2</td>
</tr>
<tr>
<td>Alpha-fetoprotein (AFP), serum</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Dimeric inhibin A (DIA)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Estriol, unconjugated (uE3)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG),</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>quantitative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The CAP designed these programs for laboratories using AFP and hCG for prenatal screening purposes only. For all other applications, see program K or KK on page 86.

First Trimester Maternal Screening  FP1T, FP1B

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total hCG</td>
<td>FP1T</td>
<td>5</td>
</tr>
<tr>
<td>Free beta hCG</td>
<td>FP1B</td>
<td>5</td>
</tr>
<tr>
<td>PAPP-A</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

The CAP designed these programs for laboratories using hCG for prenatal screening purposes only. For all other applications, see program K or KK on page 86.
### Noninvasive Prenatal Testing (NIPT)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell-free DNA screening for fetal aneuploidy</td>
<td>NIPT</td>
<td>3</td>
</tr>
</tbody>
</table>

Noninvasive prenatal testing is an exercise and is not considered proficiency testing. This exercise may be used to meet the requirements for alternative assessment.

### Erythropoietin (EPO)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erythropoietin</td>
<td>EPO</td>
<td>2</td>
</tr>
</tbody>
</table>

Program Information
- Three liquid specimens
- Two shipments per year

### Fetal Fibronectin (FF)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal fibronectin</td>
<td>FF</td>
<td>2</td>
</tr>
</tbody>
</table>

Program Information
- Two 1.2-mL liquid specimens
- Two shipments per year

### Red Blood Cell Folate (FOL)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBC folate</td>
<td>FOL</td>
<td>2</td>
</tr>
</tbody>
</table>

Program Information
- Two 2.0-mL lyophilized whole blood specimens
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
### Renin and Aldosterone (RAP)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldosterone</td>
<td>RAP</td>
<td>3</td>
</tr>
<tr>
<td>Renin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Tumor Markers (TM/TMX)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adrenocorticotropic hormone (ACTH)</td>
<td>TM/TMX</td>
<td>3</td>
</tr>
<tr>
<td>Beta-2 microglobulin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CA 15-3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CA 19-9</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CA 27.29</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CA 72-4</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CA 125</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Calcitonin</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thyroglobulin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Human Epididymis Protein 4 (HUEP)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human epididymis protein 4</td>
<td>HUEP</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 2.0-mL lyophilized plasma specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

**Program Information**
- TM - Three 2.0-mL liquid serum specimens
- TMX - All program TM specimens in duplicate
- Two shipments per year

**Program Information**
- Three 1.0-mL lyophilized serum specimens
- Two shipments per year
Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

• Identify and troubleshoot instrument/method problems
• Correlate results with other laboratories or instruments
• Document correction of problems identified in Surveys
• Utilize material with confirmed results as an alternative external quality control
• Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

Endocrinology, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligand—General</td>
<td>KVM</td>
<td>K</td>
<td>86</td>
</tr>
<tr>
<td>Sex Hormones</td>
<td>YVM</td>
<td>Y</td>
<td>88</td>
</tr>
</tbody>
</table>

Program Information

• KVM - Five 5.0-mL liquid serum specimens; three shipments per year
• YVM - Three 5.0-mL liquid serum specimens in duplicate; two shipments per year

Check out the ultimate shop for all CAP branded merchandise

The online CAP Merchandise Store offers fun ways to wear and share your CAP pride. Be the envy of your laboratory.

Visit brandmerchandise.cap.org today.
Our programs closely mimic patient testing to ensure accuracy.

- Test specimen levels that reflect clinical decision points.
- Keep current with the latest laboratory best practices with educational content supplied in our participant summary reports.
- Gain confidence in your results by comparing performance against the largest peer groups.

Analyte Additions

Critical Care Blood Gas (tCO2)
Blood Gas, Critical Care, and Oximetry

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Critical Care Blood Gas  AQ, AQ2, AQ3, AQ4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AQ</td>
<td>AQ2</td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Chloride</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Hemoglobin, estimated</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Lactate</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>pCO₂</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>pH</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>pO₂</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Potassium</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Sodium</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>tCO₂ (NEW)</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Creatinine</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Glucose</td>
<td>z</td>
<td>z</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td>z</td>
<td>z</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check programs, AQQ, AQ2Q, AQ3Q, and AQ4Q, on page 97.

It is not appropriate to report hemoglobin and hematocrit results by co-oximetry in these programs.

---

Program Information

- **AQ, AQ2** - Five 2.5-mL aqueous specimens in duplicate and five 2.5-mL specimens for hematocrit testing in duplicate; appropriate for all methods except i-STAT®
- **AQ3, AQ4** - Five 2.5-mL specimens in duplicate for i-STAT methods only
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

---

Do you use an i-STAT instrument?

- **Yes**
  - Order program AQ3 or AQ4

- **No**
  - Order program AQ or AQ2
### Quality Cross Check—Blood Gas

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium, ionized</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin, estimated</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Lactate</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>pCO₂</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>pO₂</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>3</td>
</tr>
</tbody>
</table>

It is not appropriate to report hemoglobin or hematocrit by co-oximetry in this program.

These programs do not meet regulatory requirements for proficiency testing; see programs AQ and AQ2-AQ4 on page 96. For additional information about the Quality Cross Check program, see page 40.

### The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Hematocrit, estimated</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin, total</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>SO</td>
<td>5</td>
</tr>
<tr>
<td>Oxyhemoglobin</td>
<td>SO</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**
- This program is not compatible with Oxicom-2000, -2100, or -3000 whole blood oximeters.
- For multiple instrument reporting options, see the Quality Cross Check program, SOQ below.

---

### Quality Cross Check—Blood Oximetry  SOQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carboxyhemoglobin</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Hematocrit, estimated</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin, total</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>SOQ</td>
<td>3</td>
</tr>
<tr>
<td>Oxyhemoglobin</td>
<td>SOQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program SO above. For additional information about the Quality Cross Check program, see page 40.

**The Quality Cross Check Program:**
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

---

**Program Information**
- Five 1.8-mL stabilized human hemoglobin solution specimens
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
Use the CAP’s Participant Summary Reports to take your laboratory to the next level.

• Compare your results and methods against large peer groups for greater diagnostic confidence.

• Review the extensive discussion to further educate staff on testing trends and best practices.

• Earn continuing education credit with content that aligns with the proficiency testing challenge.

New Analyte/Drug Additions

Toxicology (T) ............................................................................................................................................... 100
Urine Toxicology (UT).................................................................................................................................... 100
Forensic Toxicology, Criminalistics (FTC) .................................................................................................... 109
Toxicology

Anlytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

Use this flowchart as a guide for ordering appropriate toxicology programs for your laboratory’s testing menu.

### Toxicology T

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative reporting ONLY</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Urine Toxicology Programs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>See drug listing on next page</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Urine Toxicology UT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Toxicology Programs</td>
<td>UT</td>
<td></td>
</tr>
<tr>
<td>See drug listing on next page</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- **Toxicology T**
  - A total of five specimens consisting of 20.0-mL liquid serum and 50.0-mL liquid urine specimens
  - For laboratories performing qualitative and quantitative drug analysis on serum and qualitative analysis on urine specimens
  - Three shipments per year

- **Urine Toxicology UT**
  - Five 50.0-mL liquid urine specimens
  - For laboratories performing qualitative drug analysis with qualitative confirmatory testing
  - Three shipments per year
### T and UT Programs Drug Listing
Challenges will include a mix of drugs from the list below.

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-acetylmorphine (6-AM)</td>
<td>Delta-9-THC (serum only)</td>
</tr>
<tr>
<td>7-aminoalprenolol</td>
<td>Delta-9-THC-COOH</td>
</tr>
<tr>
<td>7-aminoatrilratezepam</td>
<td>Demoxepam</td>
</tr>
<tr>
<td>7-hydroxymitragynine</td>
<td>Desipramine</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>Desmethylclobenzaprine*</td>
</tr>
<tr>
<td>Alpha-hydroxyalprazolam</td>
<td>Desmethyldemethyleratline</td>
</tr>
<tr>
<td>Alprazolam</td>
<td>Dextromethorphan</td>
</tr>
<tr>
<td>Amitriptyline</td>
<td>Doxepin</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>Doxylamine</td>
</tr>
<tr>
<td>Amphetamine group</td>
<td>Duloxetine</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>Egonine methyl ester</td>
</tr>
<tr>
<td>Atenolol</td>
<td>Ephedrine</td>
</tr>
<tr>
<td>Atropine</td>
<td>Fentanyl</td>
</tr>
<tr>
<td>Barbiturate group</td>
<td>Flunitrazepam</td>
</tr>
<tr>
<td>Benzodiazepine group</td>
<td>Flutotropic</td>
</tr>
<tr>
<td>Benzoylpiridazine</td>
<td>Gabapentin</td>
</tr>
<tr>
<td>Brompheniramine</td>
<td>Hydrocodone</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>Bupropion</td>
<td>Hydroxybupropion</td>
</tr>
<tr>
<td>Butalbital</td>
<td>Hydroxypryvalerone (MDPV)</td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>Ibuprofen</td>
</tr>
<tr>
<td>Carbamazepine</td>
<td>Imipramine</td>
</tr>
<tr>
<td>Carbamazepine-10, 11-epoxide</td>
<td>Ketamine</td>
</tr>
<tr>
<td>Carisoprodol</td>
<td>Lamotrigine</td>
</tr>
<tr>
<td>Chloraloxapoxide</td>
<td>Levetiracetam</td>
</tr>
<tr>
<td>Chlorpheniramine</td>
<td>Levorphanol</td>
</tr>
<tr>
<td>Citalopram</td>
<td>Lidocaine</td>
</tr>
<tr>
<td>Clomipramine</td>
<td>Lorazepam</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>Meperidine</td>
</tr>
<tr>
<td>Clozapine</td>
<td>Mepedrone</td>
</tr>
<tr>
<td>Cocaethylene</td>
<td>Meprobamate</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Meta-chlorophenylpiperazine (m-CPP) NEW</td>
</tr>
<tr>
<td>Codeine</td>
<td>Methadone</td>
</tr>
<tr>
<td>Cyclobenzaprine</td>
<td>Methadone metabolite (EDDP)</td>
</tr>
<tr>
<td></td>
<td>Methamphetamine</td>
</tr>
<tr>
<td></td>
<td>Methyleneoxy-amphetamine (MDA)</td>
</tr>
<tr>
<td></td>
<td>Methyleneoxy-methamphetamine (MDMA)</td>
</tr>
<tr>
<td></td>
<td>Methyleneoxy-pyrovalerone (MDPV)</td>
</tr>
<tr>
<td></td>
<td>Methylphenidate</td>
</tr>
<tr>
<td></td>
<td>Metadrol</td>
</tr>
<tr>
<td></td>
<td>Mirtazapine</td>
</tr>
<tr>
<td></td>
<td>Mitragynine (Kratom)</td>
</tr>
<tr>
<td></td>
<td>Morphine</td>
</tr>
<tr>
<td></td>
<td>N-desmethyltramadol</td>
</tr>
<tr>
<td></td>
<td>Naproxen</td>
</tr>
<tr>
<td></td>
<td>Norbuprenorphine</td>
</tr>
<tr>
<td></td>
<td>Norchloraloxapide</td>
</tr>
<tr>
<td></td>
<td>Norclomipramine</td>
</tr>
<tr>
<td></td>
<td>Norcodeine</td>
</tr>
<tr>
<td></td>
<td>Norcyclobenzaprine*</td>
</tr>
<tr>
<td></td>
<td>Nordiazepam</td>
</tr>
<tr>
<td></td>
<td>Nordoxepine</td>
</tr>
<tr>
<td></td>
<td>Norfentanyl</td>
</tr>
<tr>
<td></td>
<td>Norfluoxetine</td>
</tr>
<tr>
<td></td>
<td>Norketamine</td>
</tr>
<tr>
<td></td>
<td>Normeperidine</td>
</tr>
<tr>
<td></td>
<td>Normoxaline</td>
</tr>
<tr>
<td></td>
<td>Noroxycodone</td>
</tr>
<tr>
<td></td>
<td>Norserpyxphene</td>
</tr>
<tr>
<td></td>
<td>Nortriptiyline</td>
</tr>
<tr>
<td></td>
<td>Norverapamil</td>
</tr>
<tr>
<td></td>
<td>N-o-desmethyltramadol</td>
</tr>
<tr>
<td></td>
<td>Olanzapine</td>
</tr>
<tr>
<td></td>
<td>Opiate group</td>
</tr>
<tr>
<td></td>
<td>Oxazepam</td>
</tr>
<tr>
<td></td>
<td>Oxycodone</td>
</tr>
<tr>
<td></td>
<td>Oxymorphine</td>
</tr>
<tr>
<td></td>
<td>Paroxetine</td>
</tr>
<tr>
<td></td>
<td>Pentobarbital</td>
</tr>
<tr>
<td></td>
<td>Phencyclidine</td>
</tr>
<tr>
<td></td>
<td>Pheniramine</td>
</tr>
<tr>
<td></td>
<td>Phenobarbital</td>
</tr>
<tr>
<td></td>
<td>Phentermine</td>
</tr>
<tr>
<td></td>
<td>Phencyclidine</td>
</tr>
<tr>
<td></td>
<td>Phenylephrine</td>
</tr>
<tr>
<td></td>
<td>Phencyclidine</td>
</tr>
<tr>
<td></td>
<td>Pregabalin</td>
</tr>
<tr>
<td></td>
<td>Propoxyphene</td>
</tr>
<tr>
<td></td>
<td>Propranolol</td>
</tr>
<tr>
<td></td>
<td>Pseuoeophedrine</td>
</tr>
<tr>
<td></td>
<td>Quetiapine</td>
</tr>
<tr>
<td></td>
<td>Salicylates</td>
</tr>
<tr>
<td></td>
<td>Sertraline</td>
</tr>
<tr>
<td></td>
<td>Tapentadol NEW</td>
</tr>
<tr>
<td></td>
<td>Temazepam</td>
</tr>
<tr>
<td></td>
<td>Topiramate</td>
</tr>
<tr>
<td></td>
<td>Tramadol</td>
</tr>
<tr>
<td></td>
<td>Trazodone</td>
</tr>
<tr>
<td></td>
<td>Tricyclic group</td>
</tr>
<tr>
<td></td>
<td>Trimipramine</td>
</tr>
<tr>
<td></td>
<td>Valproic acid</td>
</tr>
<tr>
<td></td>
<td>Venlafaxine</td>
</tr>
<tr>
<td></td>
<td>Verapamil</td>
</tr>
<tr>
<td></td>
<td>Zolpidem</td>
</tr>
</tbody>
</table>

*Same compound*
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UDS</td>
</tr>
<tr>
<td>6-acetylmorphine (6-AM)</td>
<td>5</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>5</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>5</td>
</tr>
<tr>
<td>Amphetamine/methamphetamine group</td>
<td>5</td>
</tr>
<tr>
<td>Barbiturate group</td>
<td>5</td>
</tr>
<tr>
<td>Benzodiazepine group</td>
<td>5</td>
</tr>
<tr>
<td>Benzoylecgonine/cocaine metabolites</td>
<td>5</td>
</tr>
<tr>
<td>Buprenorphine and metabolites</td>
<td>5</td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>5</td>
</tr>
<tr>
<td>Ethanol</td>
<td>5</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>5</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>5</td>
</tr>
<tr>
<td>Lysergic acid diethylamide (LSD)</td>
<td>5</td>
</tr>
<tr>
<td>Meperidine</td>
<td>5</td>
</tr>
<tr>
<td>Meprobamate/carisoprodol</td>
<td>5</td>
</tr>
<tr>
<td>Methadone</td>
<td>5</td>
</tr>
<tr>
<td>Methadone metabolite (EDDP)</td>
<td>5</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>5</td>
</tr>
<tr>
<td>Methaqualone</td>
<td>5</td>
</tr>
<tr>
<td>Methylendioxiymethamphetamine (MDMA)</td>
<td>5</td>
</tr>
<tr>
<td>Opiate group</td>
<td>5</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>5</td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>5</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>5</td>
</tr>
<tr>
<td>Tramadol</td>
<td>5</td>
</tr>
<tr>
<td>Tricyclic group</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- UDS - Five 10.0-mL liquid urine specimens; three shipments per year
- UDS6 - Three 10.0-mL liquid urine specimens; two shipments per year
- For laboratories performing drugs of abuse testing on urine specimens using immunoassay or other non-confirmatory techniques only
- Participants will have access to the AACC quarterly newsletter, *Clinical & Forensic Toxicology News*
Urine Drug Adulterant/Integrity  DAI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>DAI</td>
<td>3</td>
</tr>
<tr>
<td>Glutaraldehyde</td>
<td>DAI</td>
<td>3</td>
</tr>
<tr>
<td>Nitrite</td>
<td>DAI</td>
<td>3</td>
</tr>
<tr>
<td>Oxidants</td>
<td>DAI</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>DAI</td>
<td>3</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>DAI</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 25.0-mL urine specimens
- Two shipments per year

Give the CAP’s complimentary Sample Exchange Registry service a try!

Sign up for this unique and complimentary service for those rare analytes for which proficiency testing is not yet available. This service now includes all clinical laboratory disciplines.

- The CAP connects laboratories performing testing for which no formal proficiency testing is available.
- There is no charge for this service.
- Participate at any time, no contract required.
- A minimum of three laboratories performing the same analyte test must participate before the CAP can facilitate the sample exchange.
- Each individual laboratory will receive its own results along with an anonymized summary report for all participants.

Visit cap.org and from the Laboratory Improvement tab, choose Proficiency Testing > Sample Exchange Registry.
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-acetylmorphine (6-AM)</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Alpha-hydroxyalprazolam</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Butalbital</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Codeine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methadone</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methadone metabolite (EDDP)</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methaqualone</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDA)</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methylenedioxyethylamphetamine (MDEA)</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDMA)</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Morphine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Norbuprenorphine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Norfentanyl</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Norpropoxyphene</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Secobarbital</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Temazepam</td>
<td>■</td>
<td>10</td>
</tr>
<tr>
<td>Adulterant/Integrity Indicator</td>
<td>■</td>
<td>10</td>
</tr>
</tbody>
</table>

**Program Information**

- Ten 50.0-mL liquid urine specimens
- For laboratories that perform both screening and confirmatory testing, including quantitation, for drugs of abuse in urine specimens; laboratories are asked to report creatinine, pH, and specific gravity for each specimen to ensure specimen adulteration has not occurred
- Participants will have access to the AACC quarterly newsletter, *Clinical & Forensic Toxicology News*
- Four shipments per year
### Oral Fluid for Drugs of Abuse (OFD)

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphetamine Group</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Amphetamine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Methamphetamine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDA)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDMA)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Benzodiazepine Group</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Alprazolam</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Diazepam</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Oxazepam</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Temazepam</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Buprenorphine and norbuprenorphine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cocaine and/or metabolite</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cocaine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Delta-9-THC</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Cotinine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fentanyl and/or metabolite</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Norfentanyl</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Methadone</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Opiate Group</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6-acetylmorphine (6-AM)</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Codeine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Morphine</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Phencyclidine (PCP)</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

#### Program Information
- Five 2.0-mL oral fluid specimens
- For laboratories performing drug screening, confirmation, and quantitation
- Four shipments per year
### Vitreous Fluid, Postmortem VF

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>VF</td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Vitreous urea nitrogen</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Serum Drug Screening SDS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen, quantitative</td>
<td>SDS</td>
<td>3</td>
</tr>
<tr>
<td>Acetone, semiquantitative and qualitative</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Barbiturate group, qualitative</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Benzodiazepine group, qualitative</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Salicylate, quantitative</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total tricyclic antidepressants, qualitative</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### CAP/AACC Alcohol/Volatiles AL1, AL2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone, quantitative</td>
<td>AL1</td>
<td>5</td>
</tr>
<tr>
<td>Ethanol, quantitative</td>
<td>AL2</td>
<td>5</td>
</tr>
<tr>
<td>Ethylene glycol, qualitative and quantitative</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Isopropanol, quantitative</td>
<td>AL1</td>
<td>5</td>
</tr>
<tr>
<td>Methanol, quantitative</td>
<td>AL2</td>
<td>5</td>
</tr>
</tbody>
</table>

---

**Program Information**

- Three 5.0-mL synthetic vitreous fluid specimens
- For forensic and other toxicology laboratories that perform quantitative analysis of vitreous fluid
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

---

**Program Information**

- Three 2.0-mL serum specimens
- For laboratories that perform serum drug screening using immunoassay or other screening techniques
- Two shipments per year

---

**Program Information**

- AL1 - Five 5.0-mL liquid whole blood specimens; conventional reporting
- AL2 - Five 2.0-mL liquid serum specimens; conventional and International System of Units (SI) reporting offered
- Three shipments per year
### Ethanol Biomarkers  ETB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl glucuronide (EtG), qualitative and quantitative</td>
<td>ETB</td>
<td></td>
</tr>
<tr>
<td>Ethyl sulfate (EtS), quantitative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This program meets the Occupational Safety and Health Administration (OSHA) requirements for proficiency testing ([OSHA lead standards-29 CFR 1910.1025(j)(2)(iii)]).

### CAP/AACC Blood Lead  BL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>BL</td>
<td></td>
</tr>
</tbody>
</table>

This program meets the Occupational Safety and Health Administration (OSHA) requirements for proficiency testing ([OSHA lead standards-29 CFR 1910.1025(j)(2)(iii)]).

### Cadmium  CD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-2-microglobulin, urine</td>
<td>CD</td>
<td></td>
</tr>
<tr>
<td>Cadmium, urine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium, whole blood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This program meets the Occupational Safety and Health Administration (OSHA) guidelines for proficiency testing ([OSHA standard-29 CFR 1910.1027AppF]).

### Nicotine and Tobacco Alkaloids  NTA

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anabasine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotinine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This program meets the Occupational Safety and Health Administration (OSHA) requirements for proficiency testing ([OSHA lead standards-29 CFR 1910.1025(j)(2)(iii)]).
### Trace Metals  R

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>Chromium</td>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>Copper</td>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>Manganese</td>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>Selenium</td>
<td>R</td>
<td>3</td>
</tr>
<tr>
<td>Zinc</td>
<td>R</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Information
- Three 6.0-mL liquid serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Trace Metals, Urine  TMU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Arsenic</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Chromium</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Cobalt</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Copper</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Lead</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Manganese</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Mercury</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Selenium</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Thallium</td>
<td>TMU</td>
<td>2</td>
</tr>
<tr>
<td>Zinc</td>
<td>TMU</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Program Information
- Two 25.0-mL urine specimens
- Conventional and International System of Units (SI) reporting offered
- For laboratories that monitor trace metals at normal and toxic levels
- Two shipments per year

### Trace Metals, Whole Blood  TMWB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Arsenic, total</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Chromium</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Cobalt</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Copper</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Manganese</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Mercury</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Selenium</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Thallium</td>
<td>TMWB</td>
<td>3</td>
</tr>
<tr>
<td>Zinc</td>
<td>TMWB</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Information
- Three 6.0-mL whole blood specimens
- Conventional and International System of Units (SI) reporting offered
- For laboratories that monitor trace metals at normal and toxic levels
- Two shipments per year
Forensic Toxicology, Criminalistics FTC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-acetylmorphine (6-AM)</td>
<td>FTC</td>
<td></td>
</tr>
<tr>
<td>7-aminoclonazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-aminoflunitrazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-hydroxymitragynine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetaminophen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha-hydroxalprazolam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alprazolam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amitriptyline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphetamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aripiprazole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atenolol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atropine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzoylecgonine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brompheniramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buprenorphine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bupropion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butalbital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbamazepine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbamazepine-10, 11-epoxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carisoprodol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlordiazepoxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorpheniramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citalopram</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clomipramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clonazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clozapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaethyline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Codeine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclobenzapine*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demoxepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desipramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desmethylclozapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desmethylsertraline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dextromethorphan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dihydrocodeine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diltiazem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dosepin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doxylamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duloxetine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecgonine ethyl ester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecgonine methyl ester</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ephedrine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fentanyl*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flunitrazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluroxetine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gabapentin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamma-hydroxybutyrate (GHB)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocodone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydromorphone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydromorphone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydroxybupropion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydroxyzine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ibuprofen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impiramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ketamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamotrigine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levetiracetam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lidocaine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lysergic acid diethylamide (LSD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meperidine*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mephedrone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meprobamate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methadone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methadone metabolite (EDDP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methamphetamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyleneoxyamphetamine (MDMA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyleneoxypropyvalerone (MDPV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methylphenidate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metoprolol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midazolam NEW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirtazapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitragynine (Kratom)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-desmethyltramadol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norbuprenorphine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norchloralzepoxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norclomipramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norcodeine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norcyclobenzapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nordiazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nodoxepin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norfentanyl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norfluoxetine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norketamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normeperidine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normirtazapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noroxycodone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norpropoxyphene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norsertraline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nortrimipramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nortriptyline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norverapamil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-desmethyltramadol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olanzapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxalazine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxycodone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxymorphone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paroxetine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pentobarbital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phencyclidine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenethalamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pheniramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenobarbital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phentermine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phynylephrine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenytoin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregabalin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Progoxyphene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propranolol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudoephedrine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quetiapine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quinine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranitidine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ritalinic acid NEW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salicylate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sertraline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strychnine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tapentadol NEW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temazepam</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topiramate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tramadol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trazodone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trimipramine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valproic acid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venlafaxine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verapamil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zolpidem</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FTC Program Drug Listing**

Challenges will include a mix of drugs from the list below.

*and/or metabolite(s)
Synthetic cannabinoid/designer drugs are widespread and constantly changing in respect to the available chemical moieties. In order to stay contemporary, the CAP has decided to modify the compounds in this program in accordance with the appearance and prevalence of new compounds.

**Synthetic Cannabinoid/Designer Drugs  SCDD**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic cannabinoid/designer drugs</td>
<td>SCDD</td>
<td>3</td>
</tr>
</tbody>
</table>

**SCDD Program Drug Listing**

Challenges will include a mix of drugs.

For the most current list of drugs, please go to cap.org. Under the Laboratory Improvement tab, click on Catalog and Ordering Information. The list is located under the PT Order Supplements header.

**Novel Opioids and Benzodiazepines  NOB**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novel opioids and benzodiazepines</td>
<td>NOB</td>
<td>3</td>
</tr>
</tbody>
</table>

**NOB Program Drug Listing**

Challenges will include a mix of drugs.

For the most current list of drugs, please go to cap.org. Under the Laboratory Improvement tab, click on Catalog and Ordering Information. The list is located under the PT Order Supplements header.
Blood Cannabinoids  THCB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>THCB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>11-hydroxy-THC</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 10.0-mL whole blood specimens
- For toxicology laboratories that perform qualitative and/or quantitative analysis of cannabinoids in blood
- Two shipments per year

Antifungal Drugs Monitoring  AFD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluconazole</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Itraconazole</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Posaconazole</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Voriconazole</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 2.0-mL serum specimens
- For laboratories performing quantitative analysis of antifungal agents
- Two shipments per year

This book is a practical guide to directing hospital toxicology laboratory operations. This edition features expanded sections on testing in the clinical setting, methodologies, and more user-friendly information on specific analytes. It provides the reader with a comprehensive view of what is needed—and expected—when offering a clinical toxicology service.

Contents include:
- Toxicology testing in the clinical setting, including new chapters on pediatric testing and chronic opioid therapy
- Toxicokinetics and methodologies, with new and expanded information on laboratory-developed tests, screening assays, targeted tests, and oral fluids and alternative matrices
- Specific analytes, including novel psychoactive substances and the use of medical cannabis
- Appendices on such useful topics as urine and serum screens, therapeutic drug monitoring, and proficiency testing

Add it to your order.
Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Item number: PUB227
Softcover; 2020
Drug Monitoring for Pain Management  DMPM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>See drug listing below</td>
<td>DMPM</td>
<td>3</td>
</tr>
</tbody>
</table>

See drug listing below

DMPM Program Drug Listing
Challenges will include a mix of drugs from the list below.

- Amphetamine group
  - 6-acetylmorphine (6-AM)
  - 7-aminoclonazepam
  - Alpha-hydroxyalprazolam
  - Alprazolam
  - Amphetamine
- Barbiturate group
- Benzodiazepine group
- Benzoylcegonine
- Buprenorphine
- Buprenorphine and/or metabolites
- Butalbital
- Cannabinoids
- Carisoprodol
- Carisoprodol and/or metabolites
- Clonazepam
- Cocaine
- Cocaine and/or metabolites
- Codeine
- Delta-9-THC-COOH
- Diazepam
- Fentanyl
- Fentanyl and/or metabolites
- Gabapentin
- Hydrocodone
- Hydromorphone
- I-Amphetamine
- I-Methamphetamine
- Lorazepam
- Meperidine
- Meperidine and/or metabolites
- Meprobamate
- Methadone
- Methadone metabolite (EDDP)
- Methamphetamine
- Methylenedioxyamphetamine (MDA)
- Methylenedioxymethamphetamine (MDMA)
- Morphine
- N-desmethyltramadol
- Norbuprenorphine
- Nordiazepam
- Norfentanyl
- Norhydrocodone
- Normeperidine
- Noroxycodone
- Noroxymorphone
- Norpropoxyphene
- O-desmethyltramadol
- Oxazepam
- Oxycodeone
- Oxymorphone
- Phenobarbital
- Pregabalin
- Propoxyphene
- Propoxyphene and/or metabolites
- Tapentadol
- Tapentadol-O-sulfate
- Temazepam
- Tramadol
- Tramadol and/or metabolites

Program Information
- Three 40.0-mL urine specimens
- For laboratories offering qualitative, confirmatory, and/or quantitative urine drug analysis for pain management
- Includes clinical cases and questions along with detailed descriptions of how to interpret test results
- Two shipments per year
Drug-Facilitated Crime  DFC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>See drug listing below</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DFC Program Drug Listing

Challenges will include a mix of drugs from the list below.

4-hydroxytriazolam
7-aminoclonazepam
7-aminoflunitrazepam
Alpha-hydroxyalprazolam
Amitriptyline
Amobarbital
Amphetamine
Benzoylcegonine
Bromazepam
Brompheniramine
Butalbital
Carisoprodol
Chlorpheniramine
Citalopram/escitalopram
Cloazapine
Codeine
Cyclobenzaprine
Delta-9-THC-COOH
Desipramine
Dextromethorphan
Diphenhydramine
Doxepin
Doxylamine
Estazolam
Etizolam
Fentanyl
Fluoxetine
Gabapentin
Gamma hydroxybutyrate (GHB)
Hydrocodone
Hydromorphone
Hydroxyzine
Imipramine
Ketamine
Lorazepam
Meperidine
Meprobamate
Meta-chlorophenylpiperazine (m-CPP)
Methadone
Methadone metabolite (EDDP)
Methamphetamine
Methylenedioxyamphetamine (MDA)
Methylenedioxymethamphetamine (MDMA)
Midazolam
Morphine
Norbuprenorphine
Nordoxepin
Norfentanyl
Norfluroxetine
Norketamine
Normeperidine
Norpropoxyphene
Norsertraline
Nortriptyline
Norvenlafaxine
O-desmethyltramadol
Oxazepam
Oxycodone
Oxymorphone
Paroxetine
Pentobarbital
Phencyclidine (PCP)
Phenobarbital
Phenytoin
Promethazine
Propoxyphene
Quetiapine
Scopolamine
Secobarbital
Sertraline
Tapentadol
Temazepam
Tetrahydrozoline
Topiramate
Tramadol
Valproic acid
Venlafaxine
Zaleplon
Ziprasidone
Zolpidem
Zopiclone/Eszopiclone

Program Information
- Three 25.0-mL urine specimens
- For laboratories performing qualitative urine drug analysis with confirmation testing
- Designed for laboratories performing testing for drugs associated with drug-facilitated crimes, which target drugs at much lower concentrations than in other toxicology programs
- Two shipments per year
Improve the reliability of your patient results with CAP Survey Validated Materials

Use the same material that is sent in the Surveys program to:

• Identify and troubleshoot instrument/method problems
• Correlate results with other laboratories or instruments
• Document correction of problems identified in Surveys
• Utilize material with confirmed results as an alternative external quality control
• Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

### Toxicology, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Drug Testing, Screening</td>
<td>UDSM</td>
<td>UDS</td>
<td>102</td>
</tr>
</tbody>
</table>

### Program Information

- Five 10.0-mL liquid urine specimens
- Three shipments per year

---

**We are here to help.**

**Fast Focus on Compliance—the inspector’s quick guide.**

A resource for laboratories and inspectors alike, our Fast Focus on Compliance mini-training vignettes help you prepare for future laboratory inspections by gaining a clear understanding of the requirements and receiving insight into areas that need improvement:

- Cite or Recommend? Know Before you Go!
- What Did You REALLY Mean?
  How to Write a Good Deficiency

- Summation Solutions
- Inspecting Laboratory Director Responsibility:
  Delegation Junction What’s Your Function?
- Inspecting Competency Assessment:
  Busting the Myths
- Inspecting Method Validation/
  Verification Studies

Access more than 20 concentrated topics related to laboratory inspections.
Make accuracy your number one focus.

- Accuracy-Based Programs use challenge specimens that are matrix-related, bias-free, and have target values traceable to certified reference materials.

- Only the CAP’s Accuracy-Based Programs allow laboratories to compare their test results with reference method results.
Accuracy-Based Programs

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Accuracy-Based Lipids  ABL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apolipoprotein A1*</td>
<td>ABL</td>
<td>3</td>
</tr>
<tr>
<td>Apolipoprotein B*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Cholesterol*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HDL cholesterol*</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Non-HDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Lipoprotein(a)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Triglycerides*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*This analyte will be evaluated against the reference method.*

### Accuracy-Based Vitamin D  ABVD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D (D2 and D3)</td>
<td>ABVD</td>
<td>3</td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Information

- The Centers for Disease Control and Prevention (CDC) will establish reference targets using isotope-dilution LC-MS/MS method.
Accuracy-Based Testosterone, Estradiol  ABS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albumin</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Cortisol</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Estradiol</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA), total</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone</td>
<td>ABS</td>
<td>3</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>ABS</td>
<td>3</td>
</tr>
</tbody>
</table>

The Centers for Disease Control and Prevention (CDC) will set target values for testosterone and estradiol using the established reference methods.

Accuracy-Based Urine  ABU

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>ABU</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>ABU</td>
<td>3</td>
</tr>
<tr>
<td>Protein, total</td>
<td>ABU</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin, quantitative</td>
<td>ABU</td>
<td>3</td>
</tr>
<tr>
<td>Urine albumin: creatinine ratio</td>
<td>ABU</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 1.0-mL human serum specimens
- Two shipments per year

Program Information
- Three 5.0-mL human urine specimens
- Two shipments per year

Identify and Control Risks in Your Laboratory
The QMED online course Risk Management provides a realistic case study as well as video commentary by CAP pathologists, inspectors, and ISO 15189 assessors. It shows you how to:
- Find, prioritize, and control risks
- Use common tools
- Assess how your laboratory’s culture is affecting risks

Includes an Excel-based Risk Register Tool, which helps you prioritize and keep track of risks.
See the Continuing Education section. Add QMEDRISK to your order.

“Managing risks is a mindset that needs to be present throughout the laboratory... This course will help you manage risk to a level that is acceptable to our physicians, our patients, and our administration.”

Dr. Gaurav Sharma, MD, FCAP
Division Head of Regional Laboratories
Henry Ford Health System
### Creatinine Accuracy Calibration Verification/Linearity LN24

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN24 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>LN24</td>
<td>z 0.6–4.0 mg/dL</td>
</tr>
<tr>
<td>Estimated glomerular filtration rate</td>
<td>LN24</td>
<td>z eGFR</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

The College of American Pathologists (CAP) and the National Kidney Disease Education Program (NKDEP) have an initiative to harmonize clinically reported creatinine values. This initiative is analogous to what the federal health agencies and the clinical laboratory community did to improve the accuracy of cholesterol and glycohemoglobin testing.

### Harmonized Thyroid ABTH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triiodothyronine (T3), free</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Triiodothyronine (T3), total</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroxine (T4), free</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroxine (T4), total</td>
<td>ABTH</td>
<td>3</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>ABTH</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Information

- Analytes will be evaluated using harmonization.

### Hemoglobin A1c Accuracy Calibration Verification/Linearity LN15

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN15 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A1c</td>
<td>LN15</td>
<td>z 5%–12%</td>
</tr>
</tbody>
</table>

CAP-assigned target values derived from Hemoglobin A1c measurements assayed by National Glycohemoglobin Standardization Program (NGSP) secondary reference laboratories.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Hemoglobin A\(_1c\) GH2, GH5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Code</td>
<td></td>
</tr>
<tr>
<td>GH2</td>
<td>3</td>
</tr>
<tr>
<td>GH5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**
- These programs will be evaluated against the National Glycohemoglobin Standardization Program (NGSP) reference method.
- The CAP’s Accreditation Programs require all accredited laboratories performing non-waived testing for Hemoglobin A\(_1c\) to complete 15 PT challenges per year.
- For multiple instrument reporting options, see the Quality Cross Check program, GHQ on page 42.
- These programs have limited stability. Laboratories outside the US or Canada should consider purchase of GH5I, which has longer stability.

### Accuracy-Based Glucose, Insulin, and C-Peptide ABGIC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-peptide</td>
<td>ABGIC</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

**Additional Information**
- Target values are based upon the isotope-dilution gas chromatography-mass spectrometry reference measurement procedure for glucose performed by the CDC Reference Laboratory, Division of Laboratory Sciences, Centers for Disease Control and Prevention (Atlanta, GA).
- Target values for C-peptide are established by isotope-dilution mass spectrometry performed at the University of Missouri, Diabetes Diagnostic Laboratory.
Validated Materials

**Improve the reliability of your patient results with CAP Survey Validated Materials**

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

### Chemistry, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry and Therapeutic Drugs</td>
<td>CZVM</td>
<td>CZ</td>
<td>58-60</td>
</tr>
<tr>
<td>Cerebrospinal Fluid</td>
<td>MVM</td>
<td>M</td>
<td>78</td>
</tr>
<tr>
<td>Urine Chemistry—General</td>
<td>UVM</td>
<td>U</td>
<td>72</td>
</tr>
</tbody>
</table>

### Coagulation—Limited, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulation—Limited</td>
<td>CGM</td>
<td>CGL</td>
<td>164</td>
</tr>
</tbody>
</table>

### Endocrinology, Validated Materials

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligand—General</td>
<td>KVM</td>
<td>K</td>
<td>86</td>
</tr>
<tr>
<td>Sex Hormones</td>
<td>YVM</td>
<td>Y</td>
<td>88</td>
</tr>
</tbody>
</table>

### Toxicology, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Validated Material Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine Drug Testing, Screening</td>
<td>UDSM</td>
<td>UDS</td>
<td>102</td>
</tr>
</tbody>
</table>
Ensure your instrument and method are performing to their optimal levels.

Verify your analytical measurement range for cardiac markers using our newest calibration verification/linearity programs for:

- High-sensitivity Troponin I (LN48).
- High-sensitivity Troponin T (LN47).
Calibration Verification/Linearity

The CAP CVL Program

The CAP is your trusted calibration verification and linearity partner. Our CVL program will help you meet both CLIA regulations and CAP Laboratory Accreditation Program requirements for calibration and analytical measurement range verification under 42 CFR493.1255(bX3). Do not let instrument problems impact your patient results; use the calibration verification and linearity studies to ensure your instrument and method are performing to their optimal levels.

With your enrollment in the CAP CVL program you will receive:

- **Testing Kit**
  - Kit instructions—Contain important information to help you complete testing and accurately report your results
  - Specimens—The majority of CAP CVL programs offer human-based materials to closely mimic your patient results

- **Customized Report Package**
  - Executive Summary—A quick overview of both your calibration verification and linearity results for all reported analytes
  - Calibration Verification Evaluation
  - Linearity Evaluation
    - Rapid result turnaround is complimentary for most CVL programs. View your expedited linearity evaluations within two business days of submission by logging into e-LAB Solutions Suite.
  - Linearity Troubleshooting Report
  - Participant Summary—A summary of laboratory performance that includes peer group statistics and enhanced diagnostic information for early insight into potential problems

- **Additional Tools**
  - Calibration Verification/Linearity Program User’s Guide—Get assistance in interpreting your evaluations and reports as well as helpful troubleshooting information with suggested actions. Also available online by logging into e-LAB Solutions Suite
  - Calibration Verification Troubleshooting Guide—The guide provides suggested actions if you receive a calibration verification result of Different, or if your evaluation result is Verified over a range that does not include all of your reported results
  - Calibration Verification/Linearity Surveys Investigation Checklist for Problematic Results—Interpretative checklists are included to help with troubleshooting and documentation
### Your Total Calibration Verification/Linearity (CVL) Solution

<table>
<thead>
<tr>
<th>CVL Program</th>
<th>Page No.</th>
<th>Corresponding Proficiency Testing Program</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LN2 - Chemistry, Lipid, Enzyme CVL</td>
<td>124</td>
<td>C1, C3/C3X, C4, CZ/CZX/CZ2X</td>
<td>58-60</td>
</tr>
<tr>
<td>LN2BV - Chemistry, Lipid, Enzyme all Beckman (except AU), Vitros CVL</td>
<td>124</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN3 - Therapeutic Drug Monitoring CVL</td>
<td>125</td>
<td>CZ/CZX/CZ2X/Z</td>
<td>58-60</td>
</tr>
<tr>
<td>LN5 - Ligand CVL</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN5S - Ligand all Siemens ADVIA (Centaur, CP, and XP) and Atellica IM CVL</td>
<td>125</td>
<td>K/KK</td>
<td>86</td>
</tr>
<tr>
<td>LN6 - Urine Chemistry CVL</td>
<td>126</td>
<td>U</td>
<td>72</td>
</tr>
<tr>
<td>LN7 - Immunology CVL</td>
<td>126</td>
<td>IG/IGX</td>
<td>216</td>
</tr>
<tr>
<td>LN8 - Reproductive Endocrinology CVL</td>
<td>127</td>
<td>Y/YY</td>
<td>88</td>
</tr>
<tr>
<td>LN9 - Hematology CVL</td>
<td>127</td>
<td>FH series, HE series</td>
<td>140-141</td>
</tr>
<tr>
<td>LN11 - Serum Ethanol CVL</td>
<td>127</td>
<td>AL2</td>
<td>106</td>
</tr>
<tr>
<td>LN12 - C-Reactive Protein CVL</td>
<td>128</td>
<td>CRP</td>
<td>216</td>
</tr>
<tr>
<td>LN13, LN13C - Blood Gas/Critical Care CVL</td>
<td>128</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>96</td>
</tr>
<tr>
<td>LN15 - Hemoglobin A1c Accuracy CVL</td>
<td>128</td>
<td>GH2, GH5</td>
<td>67</td>
</tr>
<tr>
<td>LN16 - Homocysteine CVL</td>
<td>129</td>
<td>HFS</td>
<td>68</td>
</tr>
<tr>
<td>LN17 - Whole Blood Glucose CVL</td>
<td>129</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN18, LN19 - Reticulocyte CVL</td>
<td>129</td>
<td>RT, RT2, RT3, RT4</td>
<td>146</td>
</tr>
<tr>
<td>LN20 - Urine Albumin CVL</td>
<td>130</td>
<td>U</td>
<td>72</td>
</tr>
<tr>
<td>LN21 - High-Sensitivity C-Reactive Protein CVL</td>
<td>130</td>
<td>HSCRP</td>
<td>68</td>
</tr>
<tr>
<td>LN22 - Flow Cytometry CVL</td>
<td>130</td>
<td>FL</td>
<td>224</td>
</tr>
<tr>
<td>LN23 - Prostate-Specific Antigen CVL</td>
<td>130</td>
<td>K/KK</td>
<td>86</td>
</tr>
<tr>
<td>LN24 - Creatinine Accuracy CVL</td>
<td>131</td>
<td>C1, C3/C3X, C4, CZ/CZX/CZ2X</td>
<td>58-60</td>
</tr>
<tr>
<td>LN25, LN27 - Troponin I and T CVL</td>
<td>131</td>
<td>CRT, CRTI</td>
<td>64</td>
</tr>
<tr>
<td>LN30 - B-Type Natriuretic Peptides CVL</td>
<td>131</td>
<td>BNP</td>
<td>63</td>
</tr>
<tr>
<td>LN31 - Immunosuppressive Drugs CVL</td>
<td>132</td>
<td>CS</td>
<td>61</td>
</tr>
<tr>
<td>LN32 - Ammonia CVL</td>
<td>132</td>
<td>C1, C3/C3X, CZ/CZX/CZ2X</td>
<td>58-60</td>
</tr>
<tr>
<td>LN33 - Serum Myoglobin CVL</td>
<td>132</td>
<td>CRT, CRTI</td>
<td>64</td>
</tr>
<tr>
<td>LN34 - Tumor Markers CVL</td>
<td>132</td>
<td>TM/TMX</td>
<td>93</td>
</tr>
<tr>
<td>LN35 - Thrombophilia CVL</td>
<td>133</td>
<td>CGS2</td>
<td>167</td>
</tr>
<tr>
<td>LN36 - Heparin CVL</td>
<td>133</td>
<td>CGS4</td>
<td>167</td>
</tr>
<tr>
<td>LN37 - von Willebrand Factor Antigen CVL</td>
<td>133</td>
<td>CGS3</td>
<td>167</td>
</tr>
<tr>
<td>LN38 - CMV Viral Load CVL</td>
<td>133</td>
<td>VLS, VLS2</td>
<td>206</td>
</tr>
<tr>
<td>LN39 - HIV Viral Load CVL</td>
<td>133</td>
<td>HIVG, HV2</td>
<td>206</td>
</tr>
<tr>
<td>LN40 - Vitamin D CVL</td>
<td>134</td>
<td>VITD</td>
<td>88</td>
</tr>
<tr>
<td>LN41 - Procalcitonin CVL</td>
<td>134</td>
<td>PCT</td>
<td>81</td>
</tr>
<tr>
<td>LN42 - D-Dimer CVL</td>
<td>134</td>
<td>CGL, CGDF</td>
<td>164</td>
</tr>
<tr>
<td>LN44 - Fibrinogen CVL</td>
<td>134</td>
<td>CGL</td>
<td>164</td>
</tr>
<tr>
<td>LN45 - HCV Viral Load CVL</td>
<td>133</td>
<td>HCV2</td>
<td>205</td>
</tr>
<tr>
<td>LN46 - C-Peptide/Insulin CVL</td>
<td>135</td>
<td>ING</td>
<td>90</td>
</tr>
<tr>
<td>LN47 - High-Sensitivity Troponin T CVL</td>
<td>135</td>
<td>HCRT, HCRTI</td>
<td>64</td>
</tr>
<tr>
<td>LN48 - High-Sensitivity Troponin I CVL</td>
<td>135</td>
<td>HCRT, HCRTI</td>
<td>64</td>
</tr>
</tbody>
</table>

All CVL programs provide individual evaluation reports by analytes, an executive summary, and graphical plots for linearity and calibration verification.
### Chemistry, Lipid, Enzyme Calibration Verification/Linearity  LN2, LN2BV

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN2</th>
<th>LN2BV</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(All Instruments)</td>
<td>All Beckman (except AU)</td>
<td>Vitros</td>
</tr>
<tr>
<td>Albumin</td>
<td>1</td>
<td>1.5–9.0</td>
<td></td>
<td>g/dL</td>
</tr>
<tr>
<td>Calcium</td>
<td>1</td>
<td>4.0–18.0</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Chloride</td>
<td>1</td>
<td>60–180</td>
<td></td>
<td>mmol/L</td>
</tr>
<tr>
<td>CO₂</td>
<td>1</td>
<td>7–42</td>
<td></td>
<td>mmol/L</td>
</tr>
<tr>
<td>Creatinine</td>
<td>1</td>
<td>0.8–34.0</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Glucose</td>
<td>1</td>
<td>20–750</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Iron</td>
<td>1</td>
<td>10–950</td>
<td></td>
<td>µg/dL</td>
</tr>
<tr>
<td>Magnesium</td>
<td>1</td>
<td>0.5–9.0</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Osmolality</td>
<td>1</td>
<td>200–600</td>
<td></td>
<td>mOsm/kg H₂O</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>1</td>
<td>0.5–22.0</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Potassium</td>
<td>1</td>
<td>1.5–13.0</td>
<td></td>
<td>mmol/L</td>
</tr>
<tr>
<td>Protein</td>
<td>1</td>
<td>1.5–12.0</td>
<td></td>
<td>g/dL</td>
</tr>
<tr>
<td>Sodium</td>
<td>1</td>
<td>65–195</td>
<td></td>
<td>mmol/L</td>
</tr>
<tr>
<td>Urea nitrogen/Urea</td>
<td>1</td>
<td>5–170</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Uric acid</td>
<td>1</td>
<td>1–25</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td>1</td>
<td>25–1,800</td>
<td>25–1,000</td>
<td>25–1,100</td>
</tr>
<tr>
<td>ALT (SGPT)</td>
<td>1</td>
<td>10–900</td>
<td>10–650</td>
<td>30–700</td>
</tr>
<tr>
<td>Amylase</td>
<td>1</td>
<td>30–1,800</td>
<td>30–900</td>
<td>30–800</td>
</tr>
<tr>
<td>AST (SGOT)</td>
<td>1</td>
<td>10–900</td>
<td>10–500</td>
<td>10–700</td>
</tr>
<tr>
<td>Creatine kinase</td>
<td>1</td>
<td>25–2,000</td>
<td>25–1,200</td>
<td>25–700</td>
</tr>
<tr>
<td>CK-2 (MB) mass</td>
<td>1</td>
<td>1–250</td>
<td>1–300</td>
<td>1–200</td>
</tr>
<tr>
<td>Gamma glutamyl transferase</td>
<td>1</td>
<td>10–1,400</td>
<td>10–900</td>
<td>10–1,100</td>
</tr>
<tr>
<td>Lactate dehydrogenase</td>
<td>1</td>
<td>50–1,800</td>
<td>50–700</td>
<td>185–3,000</td>
</tr>
<tr>
<td>Lipase</td>
<td>1</td>
<td>20–1,200</td>
<td>20–190</td>
<td>150–2,500</td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td>1</td>
<td>0.1–10.0</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Bilirubin, total</td>
<td>1</td>
<td>0.2–25.0</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>1</td>
<td>35–625</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>HDL</td>
<td>1</td>
<td>7–120</td>
<td></td>
<td>mg/dL</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>1</td>
<td>20–700</td>
<td></td>
<td>mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.

**Program Information**
- Seven 5.0-mL liquid serum specimens for basic chemistry, six 3.0-mL liquid serum specimens for direct and total bilirubin, seven 2.0-mL liquid serum specimens for lipids, and seven 5.0-mL liquid serum specimens for enzymes
- LN2 – Appropriate for most major instruments
- LN2BV – Appropriate for Beckman (except AU) and Vitros instruments only
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Therapeutic Drug Monitoring Calibration Verification/Linearity  LN3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN3 Target Ranges</th>
<th>LN3 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>LN3</td>
<td>20–350 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Amikacin</td>
<td></td>
<td>2–45 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Carbamazepine</td>
<td></td>
<td>2–25 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Digoxin</td>
<td></td>
<td>0.5–4.4 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Gentamicin</td>
<td></td>
<td>1–11 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Lidocaine</td>
<td></td>
<td>1–10 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Lithium</td>
<td></td>
<td>0.3–4.0 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Phenobarbital</td>
<td></td>
<td>8–80 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Phenytoin</td>
<td></td>
<td>5–35 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Salicylate</td>
<td></td>
<td>7–90 mg/dL</td>
<td></td>
</tr>
<tr>
<td>Theophylline</td>
<td></td>
<td>5–35 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Tobramycin</td>
<td></td>
<td>1–10 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Valproic acid</td>
<td></td>
<td>15–140 µg/mL</td>
<td></td>
</tr>
<tr>
<td>Vancomycin</td>
<td></td>
<td>7–85 µg/mL</td>
<td></td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Ligand Calibration Verification/Linearity  LN5, LN5S

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN5 Target Ranges</th>
<th>LN5 Target Ranges</th>
<th>LN5S Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFP</td>
<td>LN5, LN5S*</td>
<td>1.0–900.0 ng/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CEA</td>
<td></td>
<td>0.5–750.0 ng/mL</td>
<td>0.6–90.0 ng/mL</td>
<td></td>
</tr>
<tr>
<td>Cortisol</td>
<td></td>
<td>1–65 µg/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferritin</td>
<td></td>
<td>2–1,100 ng/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Folate</td>
<td></td>
<td>1.3–20.0 ng/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG)</td>
<td></td>
<td>5–14,000 mIU/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triidothyronine (T3), total</td>
<td></td>
<td>0.5–7.0 ng/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroxine (T4), total</td>
<td></td>
<td>1–80 µg/dL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td></td>
<td>0.01–100.0 µIU/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vitamin B₁₂</td>
<td></td>
<td>100–2,200 pg/mL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The LN5S CVL will allow Siemens ADVIA (Centaur, XP, and CP) and Atellica IM users to report other major instruments for analytes other than CEA, if needed.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Urine Chemistry Calibration Verification/Linearity  LN6

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN6 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylase</td>
<td>LN6</td>
<td>40–2,500 U/L</td>
</tr>
<tr>
<td>Calcium</td>
<td>LN6</td>
<td>5–30 mg/dL</td>
</tr>
<tr>
<td>Chloride</td>
<td>LN6</td>
<td>20–300 mmol/L</td>
</tr>
<tr>
<td>Creatinine</td>
<td>LN6</td>
<td>20–540 mg/dL</td>
</tr>
<tr>
<td>Glucose</td>
<td>LN6</td>
<td>25–640 mg/dL</td>
</tr>
<tr>
<td>Osmolality</td>
<td>LN6</td>
<td>30–1,800 mOsm/kg H₂O</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>LN6</td>
<td>15–225 mg/dL</td>
</tr>
<tr>
<td>Potassium</td>
<td>LN6</td>
<td>7–225 mmol/L</td>
</tr>
<tr>
<td>Protein, total</td>
<td>LN6</td>
<td>10–210 mg/dL</td>
</tr>
<tr>
<td>Sodium</td>
<td>LN6</td>
<td>20–310 mmol/L</td>
</tr>
<tr>
<td>Urea nitrogen/Urea</td>
<td>LN6</td>
<td>20–2,000 mg/dL</td>
</tr>
<tr>
<td>Uric acid</td>
<td>LN6</td>
<td>6–200 mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Immunology Calibration Verification/Linearity  LN7

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN7 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-1 antitrypsin</td>
<td>LN7</td>
<td>35–500 mg/dL</td>
</tr>
<tr>
<td>Complement C3</td>
<td>LN7</td>
<td>21–420 mg/dL</td>
</tr>
<tr>
<td>Complement C4</td>
<td>LN7</td>
<td>5–125 mg/dL</td>
</tr>
<tr>
<td>IgA</td>
<td>LN7</td>
<td>32–650 mg/dL</td>
</tr>
<tr>
<td>IgG</td>
<td>LN7</td>
<td>160–3,800 mg/dL</td>
</tr>
<tr>
<td>IgM</td>
<td>LN7</td>
<td>25–550 mg/dL</td>
</tr>
<tr>
<td>Transferrin</td>
<td>LN7</td>
<td>50–750 mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
Reproductive Endocrinology Calibration Verification/Linearity  LN8

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN8 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>LN8</td>
<td>25–4,500 pg/mL</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td></td>
<td>3–190 mIU/mL</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG)</td>
<td></td>
<td>5–8,000 mIU/mL</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td>LN8</td>
<td>2–190 mIU/mL</td>
</tr>
<tr>
<td>Progesterone</td>
<td>LN8</td>
<td>1–50 ng/mL</td>
</tr>
<tr>
<td>Prolactin</td>
<td>LN8</td>
<td>3–315 ng/mL</td>
</tr>
<tr>
<td>Testosterone</td>
<td>LN8</td>
<td>20–1,500 ng/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Hematology Calibration Verification/Linearity  LN9

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN9 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>LN9</td>
<td>1.0–22.5 g/dL</td>
</tr>
<tr>
<td>Platelet count</td>
<td>LN9</td>
<td>10–4,200 x 10^9/L</td>
</tr>
<tr>
<td>RBC count</td>
<td>LN9</td>
<td>0.3–7.5 x 10^12/L</td>
</tr>
<tr>
<td>WBC count</td>
<td>LN9</td>
<td>0.5–350.0 x 10^9/L</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Serum Ethanol Calibration Verification/Linearity  LN11

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN11 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum ethanol</td>
<td>LN11</td>
<td>15–550 mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### C-Reactive Protein
**Calibration Verification/Linearity** LN12

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN12 Target Range</th>
<th>LN12 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-reactive protein</td>
<td>LN12</td>
<td>7–316 mg/L</td>
<td></td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Not appropriate for reporting high-sensitivity C-reactive protein (hsCRP). For reporting hsCRP, use LN21 on page 130.

### Blood Gas/Critical Care
**Calibration Verification/Linearity** LN13, LN13C

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Program Code</th>
<th>LN13 Target Ranges</th>
<th>LN13C Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>pCO₂</td>
<td>LN13</td>
<td>LN13</td>
<td>12–91 mm Hg</td>
<td>12–91 mm Hg</td>
</tr>
<tr>
<td>pH</td>
<td>LN13</td>
<td>LN13</td>
<td>6.83–7.82</td>
<td>6.83–7.82</td>
</tr>
<tr>
<td>pO₂</td>
<td>LN13</td>
<td>LN13</td>
<td>18–490 mm Hg</td>
<td>18–490 mm Hg</td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>LN13</td>
<td>LN13</td>
<td>0.15–3.30 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>LN13</td>
<td>LN13</td>
<td>62–148 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td>LN13</td>
<td>LN13</td>
<td>10–465 mg/dL</td>
<td></td>
</tr>
<tr>
<td>Lactate</td>
<td>LN13</td>
<td>LN13</td>
<td>0.2–18.0 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>LN13</td>
<td>LN13</td>
<td>0.5–10.7 mmol/L</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>LN13</td>
<td>LN13</td>
<td>83–172 mmol/L</td>
<td></td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Hemoglobin A₁c Accuracy
**Calibration Verification/Linearity** LN15

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN15 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin A₁c</td>
<td>LN15</td>
<td>5%–12%</td>
</tr>
</tbody>
</table>

CAP-assigned target values derived from Hemoglobin A₁c measurements assayed by National Glycohemoglobin Standardization Program (NGSP) secondary reference laboratories.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
## Homocysteine Calibration Verification/Linearity LN16

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN16 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homocysteine</td>
<td>LN16</td>
<td>5–65 µmol/L</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

## Whole Blood Glucose Calibration Verification/Linearity LN17

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN17 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole blood glucose</td>
<td>LN17</td>
<td>50–400 mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

## Reticulocyte Calibration Verification/Linearity LN18, LN19

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>LN18 Target Range</th>
<th>Program Code</th>
<th>LN19 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coulter Gen-S™, LH 500, LH 700 series, and UniCel DxH</td>
<td>LN18</td>
<td>0.3%–27.0%</td>
<td>LN19</td>
<td>0.3%–24.0%</td>
</tr>
<tr>
<td>All other instruments</td>
<td>LN19</td>
<td>0.3%–24.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

---

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Urine Albumin Calibration Verification/Linearity LN20

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN20 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine albumin</td>
<td>LN20</td>
<td>10–350 mg/L</td>
</tr>
<tr>
<td>Urine creatinine</td>
<td>LN20</td>
<td>20–500 mg/dL</td>
</tr>
<tr>
<td>Urine albumin/creatinine ratio</td>
<td>LN20</td>
<td></td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

The urine albumin/creatinine ratio results will be evaluated with a calculation verification comparison.

### High-Sensitivity C-Reactive Protein Calibration Verification/Linearity LN21

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN21 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity C-reactive protein</td>
<td>LN21</td>
<td>0.5–18.0 mg/L</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Flow Cytometry Calibration Verification/Linearity LN22

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN22 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD3+</td>
<td>LN22</td>
<td>50%–70% positive</td>
</tr>
<tr>
<td>CD3+ T lymphocytes absolute</td>
<td>LN22</td>
<td>350–4,000 cells/µL</td>
</tr>
<tr>
<td>CD3+/CD4+</td>
<td>LN22</td>
<td>1%–40% positive</td>
</tr>
<tr>
<td>CD3+/CD4+ T lymphocytes absolute</td>
<td>LN22</td>
<td>6–2,000 cells/µL</td>
</tr>
<tr>
<td>CD3+/CD8+</td>
<td>LN22</td>
<td>25%–40% positive</td>
</tr>
<tr>
<td>CD3+/CD8+ T lymphocytes absolute</td>
<td>LN22</td>
<td>250–1,600 cells/µL</td>
</tr>
</tbody>
</table>

### Prostate-Specific Antigen Calibration Verification/Linearity LN23

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN23 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate-specific antigen</td>
<td>LN23</td>
<td>0.1–90.0 ng/mL</td>
</tr>
</tbody>
</table>

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
**Creatinine Accuracy**

**Calibration Verification/Linearity**  LN24

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN24</th>
<th>LN24 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td></td>
<td>LN24</td>
<td></td>
</tr>
<tr>
<td>Estimated glomerular filtration</td>
<td></td>
<td></td>
<td>0.6–4.0 mg/dL</td>
</tr>
<tr>
<td>rate (eGFR)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

The College of American Pathologists (CAP) and the National Kidney Disease Education Program (NKDEP) have an initiative to harmonize clinically reported creatinine values. This initiative is analogous to what the federal health agencies and the clinical laboratory community did to improve the accuracy of cholesterol and glycohemoglobin testing.

**Troponin Calibration Verification/Linearity**  LN25, LN27

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN25</th>
<th>LN25 Target Range</th>
<th>LN27</th>
<th>LN27 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troponin I</td>
<td></td>
<td>LN25</td>
<td>0.1–65.0 ng/mL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Troponin T</td>
<td></td>
<td></td>
<td></td>
<td>LN27</td>
<td>0.1–27.0 ng/mL</td>
</tr>
</tbody>
</table>

For LN27, view your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

LN25 and LN27 are not appropriate for reporting high-sensitivity troponin. For reporting high-sensitivity troponin T, use LN47 on page 135. For reporting high-sensitivity troponin I, use LN48 on page 135.

**B-Type Natriuretic Peptides**

**Calibration Verification/Linearity**  LN30

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN30</th>
<th>LN30 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td></td>
<td>LN30</td>
<td>18–5,000 pg/mL</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td></td>
<td></td>
<td>35–22,500 pg/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Calibration Verification/Linearity

#### Immunosuppressive Drugs Calibration Verification/Linearity LN31

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN31 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporine</td>
<td>LN31</td>
<td>60–1,200 ng/mL</td>
</tr>
<tr>
<td>Tacrolimus</td>
<td>LN31</td>
<td>1.5–30.0 ng/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

#### Ammonia Calibration Verification/Linearity LN32

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN32 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>LN32</td>
<td>13–900 µmol/L</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

#### Serum Myoglobin Calibration Verification/Linearity LN33

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN33 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myoglobin</td>
<td>LN33</td>
<td>25–900 ng/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

#### Tumor Markers Calibration Verification/Linearity LN34

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN34 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA 125</td>
<td>LN34</td>
<td>1–1,000 U/mL</td>
</tr>
<tr>
<td>CA 15-3</td>
<td>LN34</td>
<td>2–190 U/mL</td>
</tr>
<tr>
<td>CA 19-9</td>
<td>LN34</td>
<td>10–900 U/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

---

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
Coagulation Calibration Verification/Linearity
LN35, LN36, LN37

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antithrombin activity</td>
<td>LN35</td>
<td>10%–130%</td>
</tr>
<tr>
<td>Protein C activity</td>
<td>LN36</td>
<td>10%–100%</td>
</tr>
<tr>
<td>Heparin, low molecular weight</td>
<td>LN37</td>
<td>0.1–2.0 U/mL</td>
</tr>
<tr>
<td>Heparin, unfractionated</td>
<td></td>
<td>0.1–1.3 U/mL</td>
</tr>
<tr>
<td>von Willebrand factor antigen</td>
<td></td>
<td>5%–140%</td>
</tr>
</tbody>
</table>

The LN35, LN36, and LN37 CVL programs meet the CAP Accreditation requirements HEM.38009, 38010, and 38011.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Viral Load Calibration Verification/Linearity
LN38, LN39, LN45

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMV viral load</td>
<td>LN38*</td>
<td>316.0–1.0M IU/mL</td>
</tr>
<tr>
<td>HIV viral load</td>
<td>LN39</td>
<td>50.0–5.0M IU/mL</td>
</tr>
<tr>
<td>HCV viral load</td>
<td>LN45</td>
<td>50–280M IU/mL</td>
</tr>
</tbody>
</table>

*The biohazard warning applies to program LN38.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Program Information
- LN35, LN37 - Six 1.0-mL frozen plasma specimens per mailing
- LN36 - Twelve 1.0-mL frozen plasma specimens per mailing, which include six for low molecular weight heparin and six for unfractionated heparin
- Two shipments per year; ships on dry ice

Program Information
- LN38 - Six 1.5-mL frozen plasma specimens
- Two shipments per year; ships on dry ice
- LN39 - Six 2.5-mL plasma specimens
- LN45 - Seven 2.5-mL frozen DNA specimens
- Two shipments per year; ships on dry ice (dry ice does not apply to LN39)

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### Vitamin D Calibration Verification/Linearity  LN40

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN40 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-OH vitamin D, total</td>
<td>LN40</td>
<td>10–135 ng/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Procalcitonin Calibration Verification/Linearity  LN41

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN41 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procalcitonin</td>
<td>LN41</td>
<td>0.3–175.0 ng/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### D-Dimer Calibration Verification/Linearity  LN42

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN42 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-dimer</td>
<td>LN42</td>
<td>220–5,500 ng/mL FEU</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Fibrinogen Calibration Verification/Linearity  LN44

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN44 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibrinogen</td>
<td>LN44</td>
<td>80–900 mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.
### C-Peptide/Insulin Calibration Verification/Linearity  LN46

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN46 Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Peptide</td>
<td>LN46</td>
<td>0.2–35.0 ng/mL</td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
<td>0.6–800.0 µIU/mL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### High-Sensitivity Troponin T Calibration Verification/Linearity  LN47

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN47 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity troponin T</td>
<td>LN47</td>
<td>10–9,000 ng/L</td>
</tr>
</tbody>
</table>

### High-Sensitivity Troponin I Calibration Verification/Linearity  LN48

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN48 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity troponin I</td>
<td>LN48</td>
<td>10–25,000 ng/L</td>
</tr>
</tbody>
</table>

Please note that the ranges listed are an estimate of the values recovered. Some instruments may recover lower or higher values than the ranges listed.

**Program Information**
- Seven 2.0-mL frozen serum specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

**Program Information**
- Six 2.0-mL serum specimens
- Two shipments per year

**Program Information**
- Six 2.0-mL serum specimens
- Two shipments per year

Program Information
- Six 2.0-mL serum specimens
- Two shipments per year
## Instrumentation Quality Management Programs

### Instrumentation I

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A Shipment</td>
</tr>
<tr>
<td>Adjustable micropipette calibration/linearity</td>
<td></td>
</tr>
<tr>
<td>Analytical balance check</td>
<td></td>
</tr>
<tr>
<td>Gravimetric pipette calibration</td>
<td></td>
</tr>
<tr>
<td>Microtiter plate linearity</td>
<td></td>
</tr>
<tr>
<td>Refractometer calibration</td>
<td></td>
</tr>
<tr>
<td>Spectrophotometer (stray light check)</td>
<td></td>
</tr>
<tr>
<td>Absorbance check – UV wavelength</td>
<td></td>
</tr>
<tr>
<td>Fluorescent intensity check – fluorescent microscopes</td>
<td></td>
</tr>
<tr>
<td>Ocular micrometer calibration</td>
<td></td>
</tr>
<tr>
<td>Osmometer study</td>
<td></td>
</tr>
<tr>
<td>Peak absorbance measurement</td>
<td></td>
</tr>
<tr>
<td>pH meter check</td>
<td></td>
</tr>
<tr>
<td>Photometric calibration – visible wavelength</td>
<td></td>
</tr>
</tbody>
</table>

WARNING: The Instrumentation (I) program specimens may contain corrosive or toxic substances, environmental hazards, or irritants.

### Program Information

- Designed to assess instruments not routinely challenged during the proficiency testing process
- Includes appropriate materials to assess important functional parameters, including accuracy and linearity
- Three shipments per year

---

The CAP is your trusted calibration verification and linearity partner, offering a comprehensive menu of programs for diagnostic confidence.

- **Expedited results**—View your linearity evaluation for most CVL programs within two business days of data submission.
- **Customized report package**—Let our team of biostatisticians perform the statistical analysis of your results so you do not have to.
- **Objective Assessment**—Maximize confidence in instrument calibration by using peer group data for a view beyond your laboratory.

See the Instrumentation Verification Tools section of this catalog to determine programs that best fit your laboratory’s CVL needs.
### Interfering Substance IFS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Billirubin Interferent</td>
</tr>
<tr>
<td>Alanine aminotransferase (ALT/SGPT)</td>
<td></td>
</tr>
<tr>
<td>Albumin</td>
<td></td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td></td>
</tr>
<tr>
<td>Amylase</td>
<td></td>
</tr>
<tr>
<td>Aspartate aminotransferase (AST/SGOT)</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td></td>
</tr>
<tr>
<td>CK-2 (MB) mass</td>
<td></td>
</tr>
<tr>
<td>Creatine kinase (CK)</td>
<td></td>
</tr>
<tr>
<td>Creatinine</td>
<td></td>
</tr>
<tr>
<td>Gamma glutamyl transferase (GGT)</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td></td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td></td>
</tr>
<tr>
<td>Lipase</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td></td>
</tr>
<tr>
<td>Osmolality</td>
<td></td>
</tr>
<tr>
<td>Phosphorus</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td></td>
</tr>
<tr>
<td>Protein, total</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td></td>
</tr>
<tr>
<td>Urea nitrogen (BUN)</td>
<td></td>
</tr>
<tr>
<td>Uric acid</td>
<td></td>
</tr>
</tbody>
</table>

The material expires December 1, 2023.

**Program Information**
- Eighteen 10.0-mL liquid serum specimens
- Designed for verifying manufacturing interference specifications and investigating discrepant results caused by interfering substances
- Submit results any time prior to the material’s expiration date
- One shipment per year
### Instrumentation Quality Management Programs

#### Serum Carryover  SCO

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine</td>
<td>SCO</td>
</tr>
<tr>
<td>hCG</td>
<td></td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td></td>
</tr>
<tr>
<td>Phenytoin</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- One 10.0-mL liquid serum specimen (low level) and one 5.0-mL liquid serum specimen (high level)
- Designed to screen for instrument sample probe carryover
- One shipment per year

#### Urine Toxicology Carryover  UTCO

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoylecgonine</td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td></td>
</tr>
<tr>
<td>Opiates</td>
<td></td>
</tr>
<tr>
<td>Amphetamine</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- Two 40.0-mL urine specimens (low and high levels)
- Designed to screen for instrument sample probe carryover
- One shipment per year

---

### Your accreditation questions answered—quickly, easily, efficiently.

It’s easy to find the answers you need on our revised and expanded accreditation resource page.

- Checklist Q&As for more than 70 common deficiencies
- Templates for competency, analytical validation and verification, and more
- CAP Laboratory Director Education, Information, & Resources
- Archived Focus on Compliance webinars
- Toolboxes—IQCP, PT/EQA, Root Cause Analysis, Self & Post Inspection
- And more—all fully searchable

Log in to e-LAB Solutions Suite and select Accreditation Resources.
Performance Analytics Dashboard provides valuable insights into your laboratory’s performance.

The complimentary dashboard helps you manage your CAP PT and accreditation performance.

- Access all graded proficiency testing result forms, evaluations, and participant summary reports from one centralized location.
- Benchmark your laboratory against your peers and CAP-wide performance.
- Consolidate multiple CAP numbers to view a single dashboard for an entire system.
Hematology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HE</td>
<td>HEP</td>
</tr>
<tr>
<td>Blood cell identification</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>MCV, MCH, and MCHC</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>MPV</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Platelet count</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>RDW</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Red blood cell count</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>White blood cell count</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- **HE, HEP** - Five 3.0-mL whole blood specimens
- **HEP** - Ten images, each available as photographs and online images
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

---

**Color Atlas of Hematology—Peripheral Blood**

The second edition of *Color Atlas of Hematology* has now expanded to two volumes, with the addition of bone marrow pathology.

Volume 1 presents keen insights into peripheral blood pathology. Link to 18 engaging videos. View 100+ peripheral blood smears online with DigitalScope® technology.

Volume 2 is a useful and instructional reference guide to bone marrow pathology. Explore the detailed “A Closer Look At...” sections. Access the links to interactive slide images.

**Vol 1. Peripheral Blood**
**Item number:** PUB222 Hardcover; 480 pages; 2018

**Vol 2. Bone Marrow**
**Item number:** PUB229 Hardcover; 370 pages; 2022

Add them to your order.

Or, view sample pages and purchase online:
- printed books at estore.cap.org
### Hematology Automated Differential Series

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FH1-FH4, FH9-FH10, FH16-FH17</td>
<td>NEW</td>
</tr>
<tr>
<td></td>
<td>FH1P-FH4P, FH9P-FH10P, FH16P-FH17P</td>
<td>NEW</td>
</tr>
<tr>
<td></td>
<td>FH13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH13P</td>
<td></td>
</tr>
<tr>
<td>Blood cell identification</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>Immature granulocyte (IG)</td>
<td>![ ]</td>
<td>5 (FH9 and FH17)</td>
</tr>
<tr>
<td>Immature platelet fraction (IPF)/reticulated platelet (RP)</td>
<td>![ ]</td>
<td>5 (FH9 and FH17)</td>
</tr>
<tr>
<td>Large unstained cell (LUC)</td>
<td>![ ]</td>
<td>5 (FH4 only)</td>
</tr>
<tr>
<td>MCV, MCH, and MCHC</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>MPV</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>Nucleated red blood cell count (nRBC)</td>
<td>![ ]</td>
<td>5 (FH3, FH9, FH13, FH16, and FH17)</td>
</tr>
<tr>
<td>Platelet count</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>RDW</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>Red blood cell count</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>White blood cell count</td>
<td>![ ]</td>
<td>5</td>
</tr>
<tr>
<td>WBC differential</td>
<td>![ ]</td>
<td>5</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check programs, FH3Q, FH4Q, FH9Q, and FH13Q, on page 142.

### Program Information
- FH1-4, FH10, FH16-17, FH1P-4P, FH10P, FH16P-17P - Five 2.5-mL whole blood specimens in vials with pierceable caps
- FH9, FH13, FH9P, FH13P - Five 2.0-mL whole blood specimens in vials with pierceable caps
- FH9P series - Ten images, each available as photographs and online images
- For method compatibility, see instrument matrix on page 143
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
### Quality Cross Check—Hematology
**FH3Q, FH4Q, FH9Q, FH13Q**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FH3Q</td>
<td>FH4Q</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>Immature granulocyte parameter</td>
<td>![Blank]</td>
<td>3</td>
</tr>
<tr>
<td>Immature platelet function (IPF)%</td>
<td>![Blank]</td>
<td>3</td>
</tr>
<tr>
<td>Large unstained cells (LUC)</td>
<td>![Blank]</td>
<td>3</td>
</tr>
<tr>
<td>MCV, MCH, MCHC</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>MPV</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>Nucleated red blood cell count (nRBC)</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>Platelet count</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>RDW</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>Red blood cell count</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>WBC differential</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
<tr>
<td>White blood cell count</td>
<td>![Blank]</td>
<td>![Blank]</td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing; see the FH Series on page 141. For additional information about the Quality Cross Check program, see page 40.

**The Quality Cross Check Program:**
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

**Program Information**
- FH3Q, FH4Q, FH9Q, FH13Q - Three 2.5-mL whole blood specimens in vials with pierceable caps
- Report up to three instruments
- For method compatibility, see instrument matrix on page 143
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year
### Hematology Automated Differential Series, Instrument Matrix

|------------|-----|-----|----------|----------|----------|------|------------|----------|------|
### Blood Cell Identification, Photographs BCP, BCP2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood cell identification</td>
<td>BCP</td>
<td>5</td>
</tr>
<tr>
<td>Educational challenge(s)</td>
<td>BCP2</td>
<td>5 (BCP)/1 (BCP2)</td>
</tr>
</tbody>
</table>

### Blood Parasite BP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood parasite identification (thin/thick film sets*)</td>
<td>BP</td>
<td>5</td>
</tr>
</tbody>
</table>

*This program will include corresponding thick films when available.

### Bone Marrow Cell Differential BMD

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone marrow differential</td>
<td>BMD</td>
<td>1</td>
</tr>
<tr>
<td>Bone marrow cell identification</td>
<td>BMD</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**

- Examine an online, whole slide image that includes a manual 500 count bone marrow differential and annotated cells for identification.
- Recognize and integrate problem-solving skills through the use of interpretive questions found throughout the discussion.
- Evaluate cell morphology and identify specific cells in bone marrow.
- See system requirements on page 13.

### Program Information

- **BCP** - Ten images, each available as photographs and online images
- **BCP2** - Six images, each available as photographs and online images
- Three shipments per year

- **Blood Parasite**
  - Five Giemsa-stained blood film sets, photographs, and/or online images
  - Percent parasitemia reporting is provided when appropriate for educational purposes
  - A variety of blood parasites, including *Plasmodium*, *Babesia*, *Trypanosoma*, and filarial worms
  - Three shipments per year

- **Bone Marrow Cell Differential**
  - One online bone marrow aspirate whole slide image that includes five annotated cells for identification
  - Powered by DigitalScope® technology
  - Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
# Hematology

## Hematology and Clinical Microscopy

### Erythrocyte Sedimentation Rate

**ESR, ESR1, ESR2, ESR3**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>All methods except the ALCOR, Alifax®, Sedimat 15®, and Sedimat 15 Plus</td>
<td>ESR, ESR1, ESR2, ESR3</td>
<td>3</td>
</tr>
<tr>
<td>Sedimat 15, Sedimat 15 Plus</td>
<td>ESR1</td>
<td>3</td>
</tr>
<tr>
<td>Alifax</td>
<td>ESR2</td>
<td>3</td>
</tr>
<tr>
<td>ALCOR iSED®, miniISED®</td>
<td>ESR3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Fetal Red Cell Detection

**HBF**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke and flow cytometry</td>
<td>HBF</td>
<td>2</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Acid elution whole slide image</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Hemoglobinopathy

**HG**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin identification and quantification</td>
<td>HG</td>
<td>4</td>
</tr>
<tr>
<td>Educational dry challenges</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin A₂ quantitation</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Hemoglobin F quantitation</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Sickling test, qualitative</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

### Rapid Total White Blood Cell Count

**RWBC**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid total white blood cell count</td>
<td>RWBC</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- **ESR, ESR1** - Three 6.0-mL whole blood specimens
- **ESR2** - Three 3.0-mL latex bead specimens
- **ESR3** - Three 3.5-mL whole blood specimens
- Two shipments per year

- **HBF**
  - Two 1.2-mL liquid whole blood specimens
  - Not designed for F cell quantitation
  - Two online, whole slide images per year with optional grids for cell counting
  - Powered by DigitalScope technology
  - Two shipments per year

- **HG**
  - Four 0.5-mL stabilized red blood cell specimens
  - Two educational dry challenges (case histories, electrophoresis patterns, and clinical interpretation questions)
  - Two shipments per year

- **RWBC**
  - Five 2.0-mL whole blood specimens
  - For use with the HemoCue WBC instrument
  - Three shipments per year
### Reticulocyte Series  RT, RT2, RT3, RT4

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott Alinity hq, Abbott Cell-Dyn 4000, Sapphire, Siemens ADVIA 120/2120, and all other automated and manual methods</td>
<td>RT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RT2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RT3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>RT4</td>
<td></td>
</tr>
<tr>
<td>Abbott Cell-Dyn 3500, 3700, Ruby</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Coulter Gen-S™, HmX, LH 500, LH 700 series, MAXM, STKS, UniCel DxH series</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sysmex XE-2100, XE-2100C, XE-2100D, XE-2100DC, XE-2100L, XE-5000, XN-L series, XN-series (includes RL App), XT-2000i, XT-4000i</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Pierceable caps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For specific program testing components, see reticulocyte matrix on next page.

### Quality Cross Check—Reticulocyte RTQ, RT3Q, RT4Q

<table>
<thead>
<tr>
<th>Instrument/Method</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott Alinity hq, Abbott Cell-Dyn 4000, Sapphire, Siemens ADVIA 120/2120, and all other automated and manual methods</td>
<td>RTQ</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RT3Q</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RT4Q</td>
<td>3</td>
</tr>
<tr>
<td>Coulter Gen-S™, HmX, LH 500, LH 700 series, MAXM, STKS, UniCel DxH series</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Sysmex XE-2100, XE-2100C, XE-2100D, XE-2100DC, XE-2100L, XE-5000, XN-L series, XN-series (includes RL App), XT-2000i, XT-4000i</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing; see the RT Series above. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.
Hematology and Clinical Microscopy

Reticulocyte, Matrix

<table>
<thead>
<tr>
<th>Program Code</th>
<th>Reticulocyte count, percent</th>
<th>Absolute reticulocyte count</th>
<th>Immature Reticulocyte Fraction (IRF)</th>
<th>Reticulocyte Hemoglobin Concentration (CHr)</th>
<th>Reticulocyte Hemoglobin (RET-He)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT/RTQ</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>RT2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>RT3/RT3Q</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>RT4/RT4Q</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Sickle Cell Screening  SCS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sickling test, qualitative</td>
<td>SCS</td>
<td>3</td>
</tr>
</tbody>
</table>

Transfusion-Related Cell Count  TRC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet count (platelet-rich plasma)</td>
<td>TRC</td>
<td>5</td>
</tr>
<tr>
<td>WBC count</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Dry challenge</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

WBC counts must be performed using a Nageotte chamber, fluorescence microscopy, or by flow cytometry.

Program Information

• Three 1.0-mL whole blood specimens
• Two shipments per year

Program Information

• Five 1.2-mL suspensions of platelet-rich plasma
• Two 1.0-mL vials leukocyte-reduced platelet material
• Two 1.0-mL vials leukocyte-reduced red blood cells
• Three shipments per year

Bone Marrow Benchtop Reference Guide

With more than 60 different identifications and a detailed description for each cell morphology, this illustrated guide is an affordable, convenient way to identify various cell types quickly and confidently. Plus, its rugged construction makes it well suited for heavy use at the benchtop.

Add it to your order.

Or, view sample pages and purchase online:
• printed books at estore.cap.org
• ebooks at ebooks.cap.org

Item number: BMBRG
Spiral bound; 2018
**Waived Combination  HCC, HCC2**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HCC</td>
<td>HCC2</td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Urinalysis/urine hCG</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Whole blood glucose</td>
<td></td>
<td>2 (HCC)/3 (HCC2)</td>
</tr>
</tbody>
</table>

**Program Information**

- **HCC** - Two 2.5-mL whole blood specimens; two shipments per year
- Conventional and International System of Units (SI) reporting offered
- **HCC2** - Total of four shipments per year
  - Hematocrit, hemoglobin, and urinalysis/urine hCG testing - Two 3.0-mL whole blood specimens and two 10.0-mL urine specimens; two shipments per year: A and C
  - Whole blood glucose testing - Three 2.0-mL whole blood specimens; two shipments per year: B and D
- To verify instrument compatibility, refer to the instrument matrix on page 70

**With direct transmission, less equals more.**

Transmit your quantitative PT results directly to the CAP with direct transmission. Your laboratory will spend less time manually entering results, which will free up resources for other priorities. Plus, you will reduce clerical errors and streamline your process to be more like patient testing.

Get connected. Learn more at cap.org
### Virtual Peripheral Blood Smear  VPBS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC differential</td>
<td>VPBS</td>
<td>3</td>
</tr>
<tr>
<td>Platelet estimate</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>RBC morphology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Blood cell identification</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

**Additional Information**

- Examine online, whole slide images that include a manual 100 white blood cell differential count and annotated cells for identification.
- Evaluate and identify red blood cell (RBC) morphology and identify specific white blood cells (WBC) in peripheral blood.
- Recognize and integrate problem-solving skills through the use of interpretive questions found throughout the discussion.
- See system requirements on page 13.

### Expanded Virtual Peripheral Blood Smear  EHE1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC differential</td>
<td>EHE1</td>
<td>2</td>
</tr>
<tr>
<td>Platelet estimate</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>RBC morphology</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>WBC morphology</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Blood cell identification</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Additional Information**

- More challenging and/or complex testing than the Virtual Peripheral Blood Smear (VPBS) program.
- Examine online, whole slide images that include a manual 100 white blood cell differential count and annotated cells for identification.
- Comprehensive case studies.
- Recognize and integrate problem-solving skills through the use of interpretive questions found throughout the discussion.
- Evaluate and identify red blood cell (RBC) morphology and identify specific white blood cells (WBC) in peripheral blood.
- See system requirements on page 13.
Hematopathology Online Education

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematopathology online case review</td>
<td>HPATH/HPATH1</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- HPATH - Five diagnostic challenges/online, whole slide images with clinical history; reporting with CME credit is available for one pathologist/hematologist; for additional pathologist/hematologist, order HPATH1.
- HPATH1 - Reporting option with CME credit for each additional pathologist/hematologist (within the same institution); must order in conjunction with program HPATH.
- Earn a maximum of 12.5 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 12.5 CE credits per hematologist for completion of an entire year.
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP).
- Powered by DigitalScope technology.
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available.

**Additional Information**

HPATH prepares pathologists, hematopathologists, and hematologists to succeed by providing ongoing diagnostic learning in hematopathology.

- Clinical history and relevant laboratory data.
- At least one online, whole slide image of peripheral blood, bone marrow, spleen, lymph node, or other tissue.
- Results of ancillary studies such as immunohistochemistry, flow cytometry, FISH, karyotyping, and molecular studies, where appropriate.
- Case discussion and discussion of differential diagnoses.
- Each case includes assessment questions.
- See system requirements on page 13.
Clinical Microscopy

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Blood or hemoglobin</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Body fluid photographs</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>hCG urine, qualitative</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Ketones</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Leukocyte esterase</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Nitrite</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Osmolality</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Protein, qualitative</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Reducing substances</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Urine sediment photographs</td>
<td>CMP</td>
<td>3</td>
</tr>
<tr>
<td>Urobilinogen</td>
<td>CMP</td>
<td>3</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, CMQ, on page 152.

Program Information
- CMP - Three 10.0-mL liquid urine specimens; for use with all instruments except Beckman Coulter DxC810c IRIS and IRIS iCHEM; six images, each available as photographs and online images
- CMP1 - Three 10.0-mL liquid urine specimens; for use with Beckman Coulter DxC810c IRIS and IRIS iCHEM instruments only, urinalysis; six images, each available as photographs and online images
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

Urinalysis Benchtop Reference Guide
- Thirty-four different cell identifications, including common and rare cells
- Detailed descriptions for each cell morphology
- Eight tabbed sections for easy reference
- A durable and water-resistant format to withstand years of benchtop use—5” x 6½”

Add it to your order.
Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Item number: UABRG
Spiral bound; 38 pages;
34 images; 2014
### Quality Cross Check—Urinalysis  CMQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilirubin</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Blood or hemoglobin</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>hCG urine, qualitative</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Ketones</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Leukocyte esterase</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Nitrite</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Osmolality</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>pH</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Protein, qualitative</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Reducing substances</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Urobilinogen</td>
<td>□</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see programs CMP and CMP1 on page 151. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments, and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

### Clinical Microscopy Miscellaneous Photopage  CMMP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMMP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fern test (vaginal)</td>
<td>□</td>
<td>1</td>
</tr>
<tr>
<td>KOH preparation (skin)</td>
<td>□</td>
<td>1</td>
</tr>
<tr>
<td>Nasal smear</td>
<td>□</td>
<td>1</td>
</tr>
<tr>
<td>Pinworm preparation</td>
<td>□</td>
<td>1</td>
</tr>
<tr>
<td>Spermatozoa</td>
<td>□</td>
<td>1</td>
</tr>
<tr>
<td>Stool for leukocytes</td>
<td>□</td>
<td>1</td>
</tr>
<tr>
<td>Urine sediment photographs</td>
<td>□</td>
<td>3</td>
</tr>
<tr>
<td>Vaginal wet preparation photographs (for clue cells, epithelial cells, trichomonas, or yeast)</td>
<td>□</td>
<td>1</td>
</tr>
</tbody>
</table>

Program Information:
- Ten images, each available as photographs and online images
- Two shipments per year
**Amniotic Fluid Leakage (AFL)**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH interpretation</td>
<td>AFL</td>
<td>3</td>
</tr>
</tbody>
</table>

**Automated Body Fluid Series (ABF1, ABF2, ABF3)**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>ABF1</th>
<th>ABF2</th>
<th>ABF3</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cell fluid count</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Total nucleated cell/WBC fluid count</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

For method compatibility, see instrument matrix below.

**Automated Body Fluid, Instrument Matrix**

<table>
<thead>
<tr>
<th>Instrument</th>
<th>ABF Series</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Instruments GloCyte, Siemens ADVIA 120/2120 series</td>
<td>ABF1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coulter LH 700 series, Unicel DxH series</td>
<td></td>
<td>ABF2</td>
<td></td>
</tr>
<tr>
<td>Sysmex XE-2100, XE-2100C, XE-2100D, XE-2100DC, XE-2100L, XE-5000, XN-series, XN-L series, XT-1800i, XT-2000i, XT-4000i</td>
<td></td>
<td></td>
<td>ABF3</td>
</tr>
<tr>
<td>Beckman Coulter Iris iQ®200, DxU 800 Iris series</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**

- Amniotic Fluid Leakage
  - Three 2.0-mL liquid specimens
  - For use with nitrazine paper and the Amniotest™
  - Two shipments per year

- Automated Body Fluid Series
  - Two 3.0-mL simulated body fluid specimens
  - Two shipments per year
Virtual Body Fluid  VBF

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body fluid cell differential</td>
<td>VBF</td>
<td>2</td>
</tr>
<tr>
<td>Body fluid cell identification</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Additional Information

- Examine online, whole slide images that include a manual differential count and annotated cells for identification.
- Evaluate cell morphology and identify specific cells in a body fluid.
- See system requirements on page 13.

Automated Urine Microscopy  UAA, UAA1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UAA</td>
<td>UAA1</td>
</tr>
<tr>
<td>Casts, semiquantitative/qualitative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crystals, semiquantitative/qualitative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epithelial cells, semiquantitative/qualitative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red blood cells, quantitative/qualitative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White blood cells, quantitative/qualitative</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For method compatibility, see instrument matrix below.

Automated Urine Microscopy, Instrument Matrix

<table>
<thead>
<tr>
<th>Instrument</th>
<th>UAA, UAA1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UAA</td>
</tr>
<tr>
<td>DIRUI FUS</td>
<td>X</td>
</tr>
<tr>
<td>DxU Iris 800 series</td>
<td>X</td>
</tr>
<tr>
<td>IRIS iQ200</td>
<td>X</td>
</tr>
<tr>
<td>Roche cobas u701</td>
<td>X</td>
</tr>
<tr>
<td>ARKRAY Aution Hybrid</td>
<td></td>
</tr>
<tr>
<td>77 Elektronika</td>
<td>X</td>
</tr>
<tr>
<td>Siemens Atellica UAS 800</td>
<td></td>
</tr>
<tr>
<td>Sysmex UF 50, 100, 500i, 1000i, 3000/4000/5000, Sysmex UX 2000</td>
<td></td>
</tr>
</tbody>
</table>

Program Information

- Two online, whole slide body fluid images that include 10 annotated cells for identification
- Powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available

Program Information

- UAA - Two 10.0-mL liquid urine specimens for use with IRIS and Roche instruments
- UAA1 - Two 12.0-mL liquid urine specimens for use with Sysmex instruments
- Two shipments per year
### Crystals BCR, BFC, URC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bile crystal identification</td>
<td>BCR</td>
<td>2</td>
</tr>
<tr>
<td>Body fluid crystal identification</td>
<td>BFC</td>
<td>2</td>
</tr>
<tr>
<td>Urine crystal identification</td>
<td>URC</td>
<td>2</td>
</tr>
</tbody>
</table>

### Dipstick Confirmatory DSC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td>DSC</td>
<td>2</td>
</tr>
<tr>
<td>Protein</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

### Fecal Fat FCFS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td>2</td>
</tr>
</tbody>
</table>

### Fetal Hemoglobin APT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal hemoglobin (gastric fluid or stool)</td>
<td>APT</td>
<td>2</td>
</tr>
</tbody>
</table>

### Gastric Occult Blood GOCB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastric occult blood</td>
<td>GOCB</td>
<td>3</td>
</tr>
<tr>
<td>Gastric pH</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- **BCR** - Two photographs
- **BFC** - Two 1.5-mL simulated body fluid specimens (eg, synovial fluid)
- **URC** - Two 1.5-mL urine specimens
- Two shipments per year

- **Two 12.0-mL liquid urine specimens**
- For use with methods to confirm positive bilirubin and protein dipstick results
- Two shipments per year

- **Two 10.0-g simulated fecal fat specimens**
- For microscopic detection of neutral fats (triglycerides) and/or split fats (total free fatty acids)
- Two shipments per year

- **Two 1.2-mL simulated body fluid specimens**
- Two shipments per year

- **Three 2.0-mL simulated gastric fluid specimens**
- Two shipments per year
### Glucose-6-Phosphate Dehydrogenase  G6PDS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6PD, qualitative and quantitative</td>
<td>G6PDS</td>
<td>2</td>
</tr>
</tbody>
</table>

### Hemocytometer Fluid Count  HFC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytopreparation differential</td>
<td>HFC</td>
<td>3</td>
</tr>
<tr>
<td>Red blood cell fluid count</td>
<td>HFC</td>
<td>3</td>
</tr>
<tr>
<td>Total nucleated cell/WBC fluid count</td>
<td>HFC</td>
<td>3</td>
</tr>
</tbody>
</table>

This program has limited stability. Laboratories outside the US or Canada should consider purchase of HFCI, which has longer stability.

### Hemocytometer Fluid Count, International  HFCI

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body fluid differential</td>
<td>HFCI</td>
<td>2</td>
</tr>
<tr>
<td>Red blood cell fluid count</td>
<td>HFCI</td>
<td>3</td>
</tr>
<tr>
<td>Total nucleated cell/WBC fluid count</td>
<td>HFCI</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- This program meets the CAP’s Accreditation Program requirements.
- Examine online, whole slide images that include a manual differential count.
- See system requirements on page 13.

### Lamellar Body Count  LBC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamellar body count</td>
<td>LBC</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 0.5-mL lyophilized hemolysate specimens
- Two shipments per year
Hematology and Clinical Microscopy

Occult Blood  OCB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult blood</td>
<td>OCB</td>
<td></td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, OCBQ, below.

Quality Cross Check—Occult Blood  OCBQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult blood</td>
<td>OCBQ</td>
<td></td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program OCB above. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

Fetal Membranes/Preterm Labor  ROM1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fetal membranes/preterm labor</td>
<td>ROM1</td>
<td></td>
</tr>
</tbody>
</table>

Program Information
- Three 0.5-mL simulated vaginal specimens for methods such as Actim PROM, AmniSure, Clinical Innovations, and PartoSure
- Two shipments per year

Special Clinical Microscopy  SCM1, SCM2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine hemosiderin, Prussian blue</td>
<td>SCM1, SCM2</td>
<td></td>
</tr>
<tr>
<td>Urine eosinophils, Wright stain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Program Information
- SCM1, SCM2 - Three images, each available as photographs and online images
- Two shipments per year
### Ticks, Mites, and Other Arthropods  TMO

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tick, mite, and arthropod identification</td>
<td>TMO</td>
<td></td>
</tr>
</tbody>
</table>

### Urine hCG  UHCG

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine hCG, qualitative</td>
<td>UHCG</td>
<td></td>
</tr>
</tbody>
</table>

### Urine Albumin and Creatinine, Semiquant  UMC

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creatinine, semiquantitative</td>
<td>UMC</td>
<td></td>
</tr>
<tr>
<td>Urine albumin (microalbumin): creatinine ratio</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Urine albumin (microalbumin), semiquantitative/qualitative</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

For quantitative reporting, refer to program U, page 72.

### Worm Identification  WID

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worm identification</td>
<td>WID</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- Three images, each available as photographs and online images
- Two shipments per year

### Program Information
- Five 1.0-mL urine specimens
- Three shipments per year

### Program Information
- Two 3.0-mL liquid urine specimens
- For use with dipstick and semiquantitative methods only
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Program Information
- Three images, each available as photographs and online images
- Two shipments per year
Enhance your learning with continuing education (CE) content included with many of our proficiency testing programs.

- For many of our PT/EQA programs, each member of a participating laboratory has complimentary enrollment to online CE activities.
- Advance skills with education activities developed by more than 600 physicians and doctoral scientists with expertise in pathology and laboratory medicine.
**Andrology and Embryology**

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Semen Analysis  SC, SC1, PV, PV1, SM, SV, ASA

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sperm count and presence/absence (manual methods)</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Sperm count (automated methods)</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Postvasectomy sperm count and presence/absence (manual methods)</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Postvasectomy sperm count (automated methods)</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Sperm viability</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
<tr>
<td>Antisperm antibody IgG</td>
<td>SC SC1 PV PV1 SM SV ASA</td>
<td>2</td>
</tr>
</tbody>
</table>

### Sperm Count, Motility, Morphology, and Viability  SMCD, SM1CD, SM2CD

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sperm count</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
<tr>
<td>Sperm motility/forward progression</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
<tr>
<td>Sperm classification</td>
<td>SMCD SM1CD SM2CD</td>
<td>10</td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
<tr>
<td>Sperm viability</td>
<td>SMCD SM1CD SM2CD</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- SC - Two 0.3-mL stabilized sperm specimens
- SC1 - Two 1.0-mL stabilized sperm specimens
- PV - Two 0.3-mL stabilized sperm specimens with counts appropriate for postvasectomy testing
- PV1 - Two 1.0-mL stabilized sperm specimens with counts appropriate for postvasectomy testing
- SM - Two prepared slides for staining
- SV - Two eosin-nigrosin-stained slides
- ASA - Two 0.3-mL serum specimens
- Two shipments per year

**Program Information**
- SMCD - Online video clips of sperm available for hemocytometer, Makler, and disposable chambers
- SM1CD, SM2CD - Two online challenges that may be viewed as whole slide images powered by DigitalScope® technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
## Embryology  EMB

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embryo transfer and quality assessment (three- and five-day-old embryos)</td>
<td>EMB</td>
<td>4</td>
</tr>
</tbody>
</table>

## Sex Hormones  Y/YY, DY

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-deoxycortisol</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>17-hydroxyprogesterone</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Androstenedione</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>DHEA sulfate</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Estradiol</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Estriol, unconjugated (uE3)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Growth hormone (GH)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>IGF-1 (somatomedin C)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Luteinizing hormone (LH)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Progesterone</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Prolactin</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, bioavailable (measured)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Testosterone, free (measured)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
<tr>
<td>Sex hormone-binding globulin (SHBG)</td>
<td>Y/YY</td>
<td>3</td>
</tr>
</tbody>
</table>

## Antimüllerian Hormone  AMH

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimüllerian hormone</td>
<td>AMH</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Two online sets of five video clips
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available

### Program Information
- Y - Three 5.0-mL liquid serum specimens in duplicate
- YY - Three 5.0-mL liquid serum specimens in triplicate
- DY - Must order in conjunction with program Y or YY
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

### Program Information
- Three 1.0-mL lyophilized serum specimens
- Two shipments per year
Rely on these Benchtop Reference Guides in your laboratory.

<table>
<thead>
<tr>
<th>Hematology</th>
<th>Microbiology</th>
<th>Reproductive Medicine</th>
</tr>
</thead>
</table>

Ruggedly constructed, these handy, fully illustrated guides are built to withstand heavy use at the benchtop.

**ADD THEM TO YOUR ORDER OR PURCHASE ONLINE**

Printed books at [estore.cap.org](http://estore.cap.org)
Ebooks at [ebooks.cap.org](http://ebooks.cap.org)
Provide for patient care and safety.

The CAP continues to support laboratory quality initiatives through the development, maintenance, and enhancement of effective proficiency testing programs for coagulation, including our newest programs:

- Expanded Coagulation Factors (ECF).
- Viscoelastic Testing—Whole Blood (VES1).
Coagulation

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Analyte</th>
<th>CGB</th>
<th>CGL</th>
<th>CGDF</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated partial thromboplastin time</td>
<td>★</td>
<td>★</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td>★</td>
<td>★</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>International normalized ratio (INR)*</td>
<td>★</td>
<td>★</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Prothrombin time</td>
<td>★</td>
<td>★</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>D-dimer</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>2</td>
</tr>
<tr>
<td>Fibrinogen degradation products, plasma</td>
<td>★</td>
<td>★</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fibrinogen degradation products, serum</td>
<td>★</td>
<td>★</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fibrin monomer</td>
<td>★</td>
<td>★</td>
<td>★</td>
<td>2</td>
</tr>
</tbody>
</table>

*Participants reporting INR results will receive a special evaluation to assess the INR calculation. For multiple instrument reporting options, see the Quality Cross Check program, CGLQ, on page 165.

**Program Information**
- CGB - Five 1.0-mL lyophilized plasma specimens
- CGL - Seven 1.0-mL lyophilized plasma specimens and one 2.0-mL serum specimen
- CGDF - One 2.0-mL serum specimen; two 1.0-mL lyophilized plasma specimens
- One 1.0-mL liquid plasma specimen will replace one 1.0-mL lyophilized plasma specimen for D-dimer testing in CGL and CGDF in one shipment per year
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year

---

**Give better consultations for hemostasis diagnosis.**

This book offers vital information on countless matters including:
- Useful chapters on emergency assessment, consultation, antifibrinolytic and thrombolytic agents, and more
- Insightful case studies
- Detailed algorithms to assist in diagnosis

**Add An Algorithmic Approach to Hemostasis Testing, 2nd Edition (PUB223) to your order.**

**Or, view sample pages and purchase online:**
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

---

**Item number:** PUB223
Hardcover; 480 pages; 175+ figures, tables, and algorithms; 2016
Quality Cross Check—Coagulation  CGLQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGLQ</td>
<td>3</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Prothrombin time</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>D-dimer</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Fibrin(ogen) degradation products, plasma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Fibrin(ogen) degradation products, serum</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program CGL on page 164. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:

- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

Coagulation—Extended  CGE/CGEX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>See analyte listing below</td>
<td>CGE/CGEX</td>
<td>2</td>
</tr>
</tbody>
</table>

Coagulation Analyte Listing (Quantitative Results)

50:50 mixing study, PT and aPTT
Activated partial thromboplastin time
Activated protein C resistance
Alpha-2-antiplasmin
Antithrombin activity/antigen
Dilute prothrombin time
Factors II, V, VII, VIII, IX, X, XI, XII, and XIII
Fibrinogen antigen
Heparin-induced thrombocytopenia (HIT)
Plasminogen activator inhibitor
Plasminogen activity/antigen
Prekallikrein
Protein C
Protein S
Prothrombin time
Reptilase time
Thrombin time
von Willebrand factor activity:
- Collagen binding
- Glycoprotein Ib binding
- Ristocetin cofactor
von Willebrand factor antigen

Program Information
- CGE - Two 1.0-mL lyophilized plasma specimens (three vials each)
- CGEX - Two 1.0-mL lyophilized plasma specimens (five vials each)
- Two shipments per year
### Expanded Coagulation Factors

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factor II</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor V</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor VII</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor VIII clot based</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor VIII chromogenic</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor IX</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor X clot based</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor X chromogenic</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor XI</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor XII</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Factor XIII</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Reptilase time</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thrombin time</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL lyophilized plasma specimens (three vials each)
- Two shipments per year

---

**Simplify laboratory quality and compliance.**

*Focus on Compliance webinars* help you understand the complex and ever-changing rules of compliance, leading to improved laboratory operations, a smoother accreditation process, and improved patient care.

- Educational webinars hosted by industry experts
- Complimentary for all CAP-accredited laboratories
- Appropriate for laboratory directors, managers, and technologists

To see the topics in the webinar series, search *Focus on Compliance* on cap.org.
Coagulation Special Testing Series  CGS1, CGS2, CGS3, CGS4, CGS5, CGS7

<table>
<thead>
<tr>
<th>Module/Analyte</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>CGS1</td>
</tr>
<tr>
<td>Activated partial thromboplastin time*</td>
<td>2</td>
</tr>
<tr>
<td>International normalized ratio (INR)</td>
<td>2</td>
</tr>
<tr>
<td>Prothrombin time*</td>
<td>2</td>
</tr>
<tr>
<td><strong>Lupus Anticoagulant and Mixing Studies Module</strong></td>
<td></td>
</tr>
<tr>
<td>Dilute Russell's viper venom time</td>
<td>2</td>
</tr>
<tr>
<td>Lupus anticoagulant (confirmation and screen)</td>
<td>2</td>
</tr>
<tr>
<td>50:50 mixing studies, PT and aPTT</td>
<td>2</td>
</tr>
<tr>
<td><strong>Thrombophilia Module</strong></td>
<td></td>
</tr>
<tr>
<td>Activated protein C resistance</td>
<td>2</td>
</tr>
<tr>
<td>Antithrombin (activity, antigen)</td>
<td>2</td>
</tr>
<tr>
<td>Protein C (activity, antigen)</td>
<td>2</td>
</tr>
<tr>
<td>Protein S (activity, free antigen, total antigen)</td>
<td>2</td>
</tr>
<tr>
<td><strong>von Willebrand Factor Antigen Module</strong></td>
<td></td>
</tr>
<tr>
<td>Factor VIII assay</td>
<td>2</td>
</tr>
<tr>
<td>von Willebrand factor (antigen, activity, multimers)</td>
<td>2</td>
</tr>
<tr>
<td>Factor VIII inhibitor</td>
<td>2</td>
</tr>
<tr>
<td><strong>Heparin Module</strong></td>
<td></td>
</tr>
<tr>
<td>Heparin activities using methodologies including Anti-Xa (unfractionated, low molecular weight, and hybrid curve)</td>
<td>3</td>
</tr>
<tr>
<td>Thrombin time</td>
<td>3</td>
</tr>
<tr>
<td><strong>Heparin-Induced Thrombocytopenia Module</strong></td>
<td></td>
</tr>
<tr>
<td>Appropriate with methods such as Immucor Lifecodes PF4 IgG and Immucor Lifecodes PF4 Enhanced assays</td>
<td>2</td>
</tr>
<tr>
<td><strong>ADAMTS13 Module</strong></td>
<td></td>
</tr>
<tr>
<td>ADAMTS13 (activity, inhibitor screen, titer, and anti-ADAMTS13 IgG)</td>
<td>3</td>
</tr>
</tbody>
</table>

*Not appropriate for meeting regulatory requirements, see page 164.

Program Information
- CGS1, CGS2, CGS3 - Two 2.0-mL lyophilized plasma specimens
- CGS4 - Three 1.0-mL lyophilized plasma specimens
- CGS5 - Two 60.0-µL serum specimens
- CGS7 - Three 1.0-mL lyophilized plasma specimens in duplicate
- Two shipments per year
### Apixaban, Dabigatran, Fondaparinux, Rivaroxaban Anticoagulant Monitoring
**APXBN, DBGN, FNPX, RVBN**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>APXBN DBGN FNPX RVBN</td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prothrombin time*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombin time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apixaban</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Dabigatran</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Fondaparinux</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Rivaroxaban</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*Not appropriate for meeting regulatory requirements, see page 164.

### Activated Clotting Time Series
**CT, CT1, CT2, CT3, CT5**

<table>
<thead>
<tr>
<th>Instrument/Cartridge</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CT CT1 CT2 CT3 CT5</td>
<td></td>
</tr>
<tr>
<td>Helena Actalyke®</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron® CA510/FTCA510</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron FTK-ACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT-LR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron P214/P215</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i-STAT® Celite® and Kaolin ACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus® HR-ACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus LR-ACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus R-ACT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medtronic Hepcon HMS Plus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check programs, CTQ-CT3Q and CT5Q, on page 169.

---

**Program Information**
- Three 1.0-mL lyophilized plasma specimens
- Two shipments per year

**Program Information**
- CT - Three 3.0-mL lyophilized whole blood specimens with corresponding diluents
- CT1 - Three 1.7-mL lyophilized whole blood specimens with corresponding diluents
- CT2 - Three 0.5-mL lyophilized whole blood/diluent ampules
- CT3 - Three 0.5-mL lyophilized whole blood/diluent ampules
- CT5 - Three 1.7-mL lyophilized whole blood specimens with corresponding diluents
- Two shipments per year
**Quality Cross Check—**
Activated Clotting Time Series
CTQ, CT1Q, CT2Q, CT3Q, CT5Q

<table>
<thead>
<tr>
<th>Instrument/Cartridge</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CTQ</td>
<td>CT1Q</td>
</tr>
<tr>
<td>Helena Actalyke®</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron® CAS10/FTCA510</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron FTK-ACT</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT+</td>
<td></td>
<td>■</td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/ACT-LR</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron P214/P215</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>i-STAT Celite® and Kaolin ACT</td>
<td></td>
<td>■</td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus® HR-ACT</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus LR-ACT</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>Medtronic Hemotec ACT/ACTII/ACT Plus R-ACT</td>
<td>■</td>
<td></td>
</tr>
<tr>
<td>Medtronic Hepcon HMS Plus</td>
<td>■</td>
<td></td>
</tr>
</tbody>
</table>

These programs do not meet regulatory requirements for proficiency testing; see programs CT-CT3 and CT5 on page 168. For additional information about the Quality Cross Check program, see page 40.

**The Quality Cross Check Program:**

- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

**Program Information**

- CTQ - Three 3.0-mL lyophilized whole blood specimens in triplicate with corresponding diluents
- CT1Q - Three 1.7-mL lyophilized whole blood specimens in triplicate with corresponding diluents
- CT2Q - Three 0.5-mL lyophilized whole blood/diluent ampules in triplicate
- CT3Q - Three 0.5-mL lyophilized whole blood/diluent ampules in triplicate
- CT5Q - Three 1.7-mL lyophilized whole blood specimens in triplicate with corresponding diluents
- Report up to three instruments
- Two shipments per year
Coagulation

<table>
<thead>
<tr>
<th>Platelet Function</th>
<th>PF, PF1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument/Method</td>
<td>Program Code</td>
</tr>
<tr>
<td>PF</td>
<td>PF1</td>
</tr>
<tr>
<td>Platelet aggregation</td>
<td></td>
</tr>
<tr>
<td>PFA-100</td>
<td></td>
</tr>
<tr>
<td>Helena Plateletworks®</td>
<td></td>
</tr>
</tbody>
</table>

These programs require the draw of a normal donor sample.

<table>
<thead>
<tr>
<th>Viscoelastic Studies</th>
<th>VES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument</td>
<td>Program Code</td>
</tr>
<tr>
<td>TEG®5000, TEG 6s, ROTEM® delta</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Viscoelastic Testing—Whole Blood</th>
<th>VES1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument</td>
<td>Program Code</td>
</tr>
<tr>
<td>Hemosonics Quantra®, ROTEM® sigma</td>
<td></td>
</tr>
</tbody>
</table>

This program requires the draw of a normal donor sample.

<table>
<thead>
<tr>
<th>Coagulation Calibration Verification/Linearity</th>
<th>LN35, LN36, LN37</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyte</td>
<td>Program Code</td>
</tr>
<tr>
<td>Antithrombin activity</td>
<td>LN35 LN36 LN37</td>
</tr>
<tr>
<td>Protein C activity</td>
<td>LN35 LN36 LN37</td>
</tr>
<tr>
<td>Heparin, low molecular weight</td>
<td>LN35 LN36 LN37</td>
</tr>
<tr>
<td>Heparin, unfractionated</td>
<td>LN35 LN36 LN37</td>
</tr>
<tr>
<td>von Willebrand factor antigen</td>
<td>LN35 LN36 LN37</td>
</tr>
</tbody>
</table>

The LN35, LN36, and LN37 CVL programs meet the CAP Accreditation requirements HEM.38009, 38010, and 38011.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.
**D-Dimer Calibration Verification/Linearity  LN42**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN42 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-dimer</td>
<td>LN42</td>
<td>220–5,500 ng/mL FEU</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

**Fibrinogen Calibration Verification/Linearity  LN44**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>LN44 Target Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibrinogen</td>
<td>LN44</td>
<td>80–900 mg/dL</td>
</tr>
</tbody>
</table>

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

**Drug-Specific Platelet Aggregation  PIA/PIAX**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin assay</td>
<td>PIA/PIAX</td>
<td>3</td>
</tr>
<tr>
<td>PRU test</td>
<td>PIA/PIAX</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Six 1.0-mL plasma specimens
- Two shipments per year

**Program Information**
- Six 1.0-mL frozen plasma specimens
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year; ships on dry ice

**Program Information**
- PIA - Three lyophilized specimens with diluents
- PIAX - All program PIA specimens in duplicate
- For use with the Accumetrics VerifyNow® System
- Kit includes sufficient material to perform one assay; multiple assay reporting requires the purchase of PIAX
- Two shipments per year
Whole Blood Coagulation
WP3, WP4, WP6, WP9, WP10

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>WP3</td>
</tr>
<tr>
<td>International normalized ratio (INR)</td>
<td>5</td>
</tr>
<tr>
<td>Prothrombin time</td>
<td>5</td>
</tr>
</tbody>
</table>

For method compatibility, see instrument matrix below.

Program Information
- WP3 - Five 1.0-mL lyophilized plasma specimens with corresponding diluents
- WP4, WP6 - Five 0.5-mL unitized lyophilized blood specimens
- WP9 - Five 0.3-mL lyophilized plasma specimens
- Three shipments per year
- WP10 - Three 0.3-mL lyophilized plasma specimens with corresponding diluents; two shipments per year

The following table provides the instrument matrix for the programs:

### Whole Blood Coagulation, Instrument Matrix

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbott CoaguSense™</td>
<td></td>
</tr>
<tr>
<td>IL GEM PCL</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/Signature+, Signature Elite and Jr. II – Citrated cuvette</td>
<td></td>
</tr>
<tr>
<td>ITC Hemochron Jr. Signature/Signature+, Signature Elite and Jr. II – Noncitrated cuvette</td>
<td></td>
</tr>
<tr>
<td>i-STAT</td>
<td></td>
</tr>
<tr>
<td>Roche CoaguChek XS Plus, XS Pro, and CoaguChek Pro II</td>
<td></td>
</tr>
<tr>
<td>Roche CoaguChek XS System</td>
<td></td>
</tr>
<tr>
<td>Siemens Xprecia Stride</td>
<td></td>
</tr>
</tbody>
</table>

For more detailed information, see the instrument matrix provided.
Platelet Mapping  PLTM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA % aggregation/inhibition</td>
<td>PLTM</td>
<td>2</td>
</tr>
<tr>
<td>ADP % aggregation/inhibition</td>
<td>PLTM</td>
<td>2</td>
</tr>
</tbody>
</table>

This program requires the draw of a normal donor sample.

**Improve the reliability of your patient results with CAP Survey Validated Materials**

Use the same material that is sent in the Surveys program to:

- Identify and troubleshoot instrument/method problems
- Correlate results with other laboratories or instruments
- Document correction of problems identified in Surveys
- Utilize material with confirmed results as an alternative external quality control
- Identify potential proficiency testing failures

Each laboratory receives a Survey Participant Summary, which includes readily available results.

Coagulation—Limited, Validated Material

<table>
<thead>
<tr>
<th>Validated Material</th>
<th>Program Code</th>
<th>Corresponding Program</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coagulation</td>
<td>CGM</td>
<td>CGL</td>
<td>164</td>
</tr>
</tbody>
</table>

**Program Information**

- One 3.2% sodium citrate and two heparin vacuum tubes; two 3.5-mL plastic tubes; one vial of 0.2M CaCl₂
- For use with the Haemonetics Platelet Mapping® assay
- Two shipments per year

Program Information

- Seven 1.0-mL lyophilized plasma specimens and one 2.0-mL serum specimen; three shipments per year
- One 1.0-mL liquid plasma specimen will replace one 1.0-mL lyophilized plasma specimen for D-dimer testing in one shipment per year
Can you spot them?

Accurately identify fungi, bugs, parasites, bacteria, and other microorganisms quickly. Ruggedly constructed, these fully illustrated guides are built to withstand heavy use at the benchtop. Spiral bound and laminated, they are conveniently sized at 6 1/2" x 7".

Rely on these Benchtop Reference Guides in your laboratory.

- Arthropod Benchtop Reference Guide (ABRG)
- Gram Stain Benchtop Reference Guide (GSBRG)
- Mycology Benchtop Reference Guide (MBRG)
- Parasitology Benchtop Reference Guide (PBRG)

ADD THEM TO YOUR ORDER OR PURCHASE ONLINE.

Printed books at estore.cap.org
Ebooks at ebooks.cap.org
Microbiology testing is changing at a rapid pace—so is our proficiency testing.

Explore our newest proficiency testing programs supporting the emerging needs of microbiology laboratories.

- Carbapenemase detection by molecular, phenotypic, and modified Hodge testing (CRE).
- Molecular testing for joint infections utilizing the joint infection panel (JIP).
Microbiology

- Participants must report a minimum of five specimens, three times per year to meet CLIA requirements for each of the subspecialties of microbiology (Bacteriology, Mycobacteriology*, Mycology, Parasitology, and Virology), for regulated testing
  *Mycobacteriology requires five specimens, two times per year
- CLIA regulated tests are bolded
- If any of the tests performed become(s) waived by the FDA mid-year, your laboratory is responsible for maintaining five challenges per test event for the remaining non-waived tests in that subspecialty

Guide to Molecular Microbiology Testing

Use this flowchart as a guide for ordering the appropriate Molecular Microbiology programs for your laboratory's testing menu. Participants must report five specimens for each mailing to meet CLIA requirements for the subspecialties of microbiology. See the following pages for more detailed information about each program.

<table>
<thead>
<tr>
<th>Do you perform molecular testing on Chlamydia or GC only?</th>
<th>Do you perform nucleic acid amplification other than GC?</th>
<th>Do you perform viral load testing only?</th>
<th>Do you perform molecular multiplexing?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YES</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td>Select from the following:</td>
<td>Select from the following:</td>
<td>Select from the following:</td>
<td>Select from the following:</td>
</tr>
<tr>
<td><strong>HC6, HC6X, HC7</strong> Chlamydia/GC Nucleic Acid Amplification (page 192)</td>
<td><strong>ID1, ID1T, ID2, ID5, IDN, IDO</strong> Nucleic Acid Amplification (pages 202, 204-205, 207)</td>
<td><strong>HV2</strong> HIV Viral Load (page 206)</td>
<td><strong>ID3</strong> Nucleic Acid Amplification, Respiratory Limited (page 205)</td>
</tr>
<tr>
<td></td>
<td><strong>D1</strong> Throat Culture (page 179)</td>
<td><strong>HCV2, HBVL, HBVL5</strong> Hepatitis Viral Load (page 205)</td>
<td><strong>IDM5, IDME</strong> Meningitis/Encephalitis Panel (page 209)</td>
</tr>
<tr>
<td></td>
<td><strong>MRS2M, MRS5M</strong> MRSA Screen, Molecular (page 189)</td>
<td><strong>VLS, VLS2</strong> Viral Load (page 206)</td>
<td><strong>IDPN</strong> Infectious Disease Pneumonia Panel (page 211)</td>
</tr>
<tr>
<td></td>
<td><strong>BOR</strong> Bordetella pertussis/parapertussis (page 186)</td>
<td></td>
<td><strong>IDR</strong> Infectious Disease Respiratory Panel (page 210)</td>
</tr>
<tr>
<td></td>
<td><strong>CDF5</strong> C. difficile Detection (page 188)</td>
<td></td>
<td><strong>GIP, GIP5</strong> Gastrointestinal Panel (page 212)</td>
</tr>
<tr>
<td></td>
<td><strong>MGEN</strong> Mycoplasma genitalium (page 192)</td>
<td></td>
<td><strong>BCM</strong> Bacterial Blood Culture (page 185)</td>
</tr>
<tr>
<td></td>
<td><strong>TVAG</strong> Trichomonas vaginalis (page 193)</td>
<td></td>
<td><strong>MVP</strong> Molecular Vaginal Panel (page 192)</td>
</tr>
<tr>
<td></td>
<td><strong>VBDM</strong> Zika (page 206)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bacteriology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

**Guide for Ordering Regulated Bacteriology Programs**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bacterial identification</strong></td>
<td>D D2 RMC D3 MC4 D1</td>
<td></td>
</tr>
<tr>
<td><strong>Gram stain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antimicrobial susceptibility testing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bacterial antigen detection</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Participants must report five specimens for each mailing to meet CLIA requirements for the subspecialty of bacteriology. See the following pages for more detailed information about each program.

### Bacteriology D

**Program Information**

- Five swab specimens with diluents in duplicate for culture
- Culture sources may include wounds, blood, respiratory, urines, stools, and anaerobes on a rotational basis
- Two specimens for bacterial antigen detection from the following:
  - One swab for Group A *Streptococcus*
  - One 1.0-mL lyophilized specimen for spinal fluid meningitis testing
  - One 0.5-mL lyophilized specimen for *Clostridioides* (*Clostridium*) *difficile*, for use with rapid or molecular testing methods
- Three shipments per year

**Additional Information**

Antigen detection challenges will be included in the following shipments:

- Shipment A: *C. difficile* antigen/toxin* and spinal fluid meningitis panel
- Shipment B: Spinal fluid meningitis panel and Group A *Streptococcus*
- Shipment C: *C. difficile* antigen/toxin* and Group A *Streptococcus*

*CMS has clarified that the *C. difficile* toxin test is not subject to CLIA regulations; therefore, toxin results will not be sent to CMS. Only *C. difficile* antigen results will be sent.

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Expanded Bacteriology  DEX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial identification</td>
<td>DEX</td>
<td></td>
</tr>
</tbody>
</table>

#### Additional Information

Expanded Bacteriology (DEX) is an educational opportunity that provides:

- Culture and susceptibility testing challenges for microbiology laboratories that perform complete identification and susceptibility of bacterial isolates including less common or problematic bacteria
- More exposure to emerging bacterial pathogens and novel resistance mechanisms
- Ability to recognize and identify organisms that exhibit multiple drug-resistance patterns
- Recovery and identification of mixed pathogens such as yeast, aerobic, and anaerobic bacteria in cultures containing multiple organisms

### Microbiology Bench Tools Competency  MBT

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial identification</td>
<td>MBT</td>
<td>6</td>
</tr>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

#### Additional Information

Microbiology Bench Tools Competency (MBT) is a supplemental module for competency assessment and an educational resource for microbiology laboratories. The module:

- Provides organisms that challenge the basic elements of testing at the microbiology bench, including direct observation, monitoring, recording, and reporting of test results
- Can be used for both competency and educational purposes, including teaching and training pathology residents, new employees, and medical and MT/MLT students
- Provides identification and susceptibility results for supervisor use

This is not a proficiency testing program and participants will not return results to the CAP.

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
**GC, Throat, and Urine Cultures  D1, D2, D3**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td>D1 D2 D3</td>
<td>1</td>
</tr>
<tr>
<td>Bacterial identification</td>
<td>D1 D2 D3</td>
<td>5</td>
</tr>
<tr>
<td>Gram stain</td>
<td>D1 D2 D3</td>
<td>1</td>
</tr>
<tr>
<td>Culture source:</td>
<td>Throat Urine Cervical</td>
<td></td>
</tr>
</tbody>
</table>

**Microbiologic level:**
- Presence or absence of Group A *Streptococcus* determination
- Organisms identified to the extent of your laboratory’s protocol
- Presence or absence of *Neisseria gonorrhoeae* determination

**Program Information**
- D1 - Five swab specimens with diluents in duplicate
- D2 - Five loop specimens with diluents in duplicate, with one susceptibility challenge, and one Gram stain challenge
- D3 - Five loop specimens with diluents in duplicate, and one Gram stain challenge
- Throat swabs compatible with molecular- and culture-based methods
- Three shipments per year

---

**Identify microorganisms quickly and confidently.**

*Gram Stain Benchtop Reference Guide* is an illustrated guide to gram-positive and gram-negative organisms. Its rugged construction is well suited for students and medical technologists for heavy use at the benchtop.

Features include:
- Theory and application of the Gram stain
- Detailed descriptions of microbial morphology, quantitation, and indicators of pathology
- Examples of more than 35 gram-positive and gram-negative organisms found in blood, body fluids, CSF, urine, and the genital and respiratory tracts
- Seven tabbed sections for easy reference

This sturdy, spiral-bound, laminated guide is conveniently sized at 6½” x 7”.

**Add it to your order.**

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
## Routine Microbiology Combination  RMC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td>RMC</td>
<td>1</td>
</tr>
<tr>
<td>GC culture</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Gram stain</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Group A Streptococcus antigen detection*</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Throat culture</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Urine culture</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

*If your laboratory uses a waived method for Group A Streptococcus, these results will not count toward the required five challenges for the subspecialty of bacteriology.

### Program Information
- Five loop specimens with diluents in duplicate, three swab specimens with diluents in duplicate, and one swab specimen for bacterial antigen detection
- Urine culture will have one susceptibility challenge
- Throat swabs compatible with molecular- and culture-based methods
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Urine Colony Count  MC3, MC4

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>MC3</td>
</tr>
<tr>
<td>Urine colony count/urine culture identification</td>
<td>2</td>
</tr>
<tr>
<td>Group A Streptococcus antigen detection*</td>
<td>3</td>
</tr>
<tr>
<td>Throat culture</td>
<td></td>
</tr>
</tbody>
</table>

*If your laboratory uses a waived method for Group A Streptococcus, these results will not count toward the required five challenges for the subspecialty of bacteriology.

### Gram Stain  D5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gram stain</td>
<td>D5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- MC3 - Two urine specimens with diluents
- MC4 - Five urine specimens with diluents, three swab specimens with diluents in duplicate, and three swab specimens for bacterial antigen detection
- Throat swabs compatible with molecular- and culture-based methods
- Three shipments per year

**Program Information**
- Five air-dried, methanol-fixed unstained glass slides
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Technical Competency Assessment of Gram Stains  QPD10/QPD25

Introduction
Gram stain is a commonly performed bacterial stain in clinical microbiology laboratories. It is often the starting point guiding microbiological workup and initial clinical diagnosis and therapy. It is important for technologists who read Gram stains to provide an accurate interpretation based on reaction type and microscopic morphology in order to provide presumptive identifications and quantification of bacteria and fungi in clinical specimens.

Objectives
This study will help assess the effectiveness of educational and practical experience policies and procedures dedicated to the laboratory’s efforts in maintaining technologist skills in the morphological assessment of Gram stains. Participation in this study will help management assess the technologist's ability to evaluate Gram stains using online, whole slide images. These cases provide a standardized review and evaluation for each technologist. The study will help management meet applicable CLIA, CAP Laboratory Accreditation, and The Joint Commission laboratory requirements for personnel competency requirements and consistency of reporting amongst staff.*

Data Collection
A series of online, whole slide images of Gram stained smears using DigitalScope technology will be provided to each participating institution to assess technologists' ability to detect various microorganisms. Technologists will provide information about their work experience related to Gram stains, continuing education, and professional background. Information will be collected from each laboratory site to provide information about their continuing education requirements in microbiology, and relevant laboratory procedures and policies related to Gram stain assessment.

Performance Indicators
• Individual technologist score (%) for each Gram stain case, and overall based on a standardized competency assessment method
• Overall laboratory score based on the facility's individual technologist performance(s)

Reports are provided at institution and technologist levels. A summary of responses to the general questions will be provided for participants.

Program Information
To meet your staff technical competency assessment requirements:
• Result forms for up to 10 technologists (QPD10)
• Result forms for up to 25 technologists (QPD25)
• Multiple kits may be purchased to accommodate quantity needed

*Participation in this study helps laboratories meet:
• CLIA personnel requirements (Subpart M, 42 CFR §493.1)
• CAP Laboratory Accreditation Program Microbiology Checklist statement MIC.11060, Culture Result Reporting: Personnel performing Gram stains for this purpose are subject to competency assessment
• CAP Laboratory Accreditation Program Microbiology Checklist statement MIC.11350, Morphologic Observation Evaluation: The laboratory evaluates consistency of morphologic observation among personnel performing Gram, trichrome and other organism stains at least annually
• CAP Laboratory Accreditation Program Checklist statement GEN.55500, Competency Assessment of Testing Personnel
• The Joint Commission Standards HR. 01.05.03, 01.06.01, 01.07.01, LD.04.05.03, and 04.05.05 regarding in-service training, continuing education, competency, and evaluation of hospital personnel

This is a one-time study conducted in the late third quarter.
**Virtual Gram Stain Competency  VGS1, VGS2**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual gram stain basic</td>
<td>VGS1</td>
<td>3</td>
</tr>
<tr>
<td>Virtual gram stain advanced</td>
<td>VGS2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Virtual Gram Stain Basic Competency (VGS1) is for general and new laboratory technologists/technicians. Participants will assess the quality of specimens and stains and will report artifacts and detailed gram-positive and gram-negative morphology. Challenges will include specimens such as CSF, body fluids, and positive blood cultures.
- Virtual Gram Stain Advanced Competency (VGS2) is for experienced laboratory technologists/technicians and microbiologists. Participants will receive challenging images of sputum, body fluids, and other specimens to assess the quality, quantity, and typical morphology of both gram-positive and gram-negative organisms appropriate for the site.
- See system requirements on page 13.

**Rapid Group A Strep Antigen Detection  D6**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A Streptococcus antigen detection*</td>
<td>D6</td>
<td>5</td>
</tr>
</tbody>
</table>

*If your laboratory uses a waived method for Group A Streptococcus, these results will not count toward the required five challenges for the subspecialty of bacteriology.

**Rapid Group A Strep Antigen Detection, Waived  D9**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A Streptococcus antigen detection</td>
<td>D9</td>
<td>2</td>
</tr>
</tbody>
</table>
### Bacteriology

#### Group B Strep Detection  D8

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group B Streptococcus</td>
<td>D8</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five swab specimens with diluents
- Compatible with molecular- and culture-based methods
- Three shipments per year

#### Bacterial Antigen Detection  LBAS, SBAS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legionella pneumophila antigen detection</td>
<td>LBAS</td>
<td>2</td>
</tr>
<tr>
<td>Streptococcus pneumoniae antigen detection</td>
<td>SBAS</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- LBAS, SBAS - Two 0.5-mL liquid simulated clinical specimens
- Two shipments per year

---

**Color Atlas of Mycology**

Built on more than 15 years of proficiency testing data, this resource book assists in the laboratory identification of fungi using the most recent taxonomic classifications. This book merges in vitro mycology (colonies on plated media/LPAB preparations) with in vivo mycology (histology/cytology).

*Add it to your order.*

*Or, view sample pages and purchase online:*
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

**Item number:** PUB226

Hardcover; 800+ images and tables; 2018

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Blood Culture BCS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood culture bacterial detection and identification</td>
<td>BCS</td>
<td>2</td>
</tr>
</tbody>
</table>

### Blood Culture, Staphylococcus aureus BCS1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus aureus/MRSA</td>
<td>BCS1</td>
<td>3</td>
</tr>
</tbody>
</table>

### Bacterial Blood Culture, Molecular BCM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood culture bacterial identification</td>
<td>BCM</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**

- This program is for the identification of gram-positive and gram-negative organisms, including common resistance mechanisms isolated from blood culture bottles.
- This program is not for the inoculation of blood culture bottles.

### Program Information

- Two specimens with diluents for inoculation of blood culture bottles
- Two shipments per year

### Program Information

- Three specimens with diluents for inoculation of blood culture bottles
- Compatible with molecular methods for detection of S. aureus/MRSA from positive blood culture bottles
- Two shipments per year

### Program Information

- Five 1.0-mL simulated blood culture fluid specimens
- For laboratories using molecular multiplex panels
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Despite advances in blood culture practices and technology, false-positive blood culture results due to contaminants continue to be a critical problem. Blood culture contamination rate, the primary indicator of preanalytic performance in microbiology, is associated with increased length of hospital stay, additional expense, and the administration of unnecessary antibiotics.

The CAP and other accrediting organizations require you to monitor and evaluate key indicators of quality for improvement opportunities. Use this monitor to help meet CAP Laboratory Accreditation Checklist statements MIC.22630 and MIC.22635: “The laboratory must determine and regularly review the number of contaminated cultures. Tracking the contamination rate and providing feedback to units and persons drawing cultures is one method that has been shown to reduce contamination rates.” This will also help laboratories meet The Joint Commission Standard QSA.04.07.01 EP3.

Objective
Determine the rate of blood culture contamination using standardized criteria for classifying contaminants.

Data Collection
On a monthly basis, participants will tabulate the total number of blood cultures processed and the total number of contaminated blood cultures. Blood cultures from neonatal patients are tabulated separately. For the purposes of this study, participants will consider a blood culture to be contaminated if they find one or more of the following organisms in only one of a series of blood culture specimens: Coagulase-negative Staphylococcus; Micrococcus; Alpha-hemolytic viridans group streptococci; Propionibacterium acnes; Corynebacterium sp. (diptheroids); or Bacillus sp. Participants have the option to monitor institution-specific subgroups, for example, a specific department or patient population.

Performance Indicators
- Neonatal contamination rate (%)
- Other contamination rate (%)
- Overall contamination rate (%)

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bordetella pertussis</td>
<td>BOR</td>
<td>3</td>
</tr>
<tr>
<td>Bordetella parapertussis</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three swab specimens
- Designed for molecular techniques
- Two shipments per year
### Carbapenemase Detection   CRE

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance mechanism detection</td>
<td>CRE</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three swab specimens containing live organisms
- Designed for molecular and phenotypic testing methods
- Challenge isolates may include Enterobacterales, *Pseudomonas*, or *Acinetobacter*
- Two shipments per year

### Carbapenem-resistant Organisms   CRO

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>KPC</em></td>
<td>CRO</td>
<td>3</td>
</tr>
<tr>
<td><em>IMP</em></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><em>NDM</em></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><em>OXA-48</em></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><em>VIM</em></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 130-μL specimens
- Designed for molecular techniques
- Compatible with Cepheid GeneXpert
- Two shipments per year

### Campylobacter   CAMP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Campylobacter</em></td>
<td>CAMP</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two swabs with diluents in duplicate
- For use with rapid antigen, culture-based testing, and molecular methods
- Two shipments per year

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### C. difficile, 2 Challenge  CDF2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clostridioides (Clostridium) difficile antigen/toxin</td>
<td>CDF2</td>
<td>2</td>
</tr>
</tbody>
</table>

### C. difficile, 5 Challenge  CDF5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clostridioides (Clostridium) difficile antigen/toxin</td>
<td>CDF5</td>
<td>5</td>
</tr>
</tbody>
</table>

CMS has clarified that the C. difficile toxin test is not subject to CLIA regulations; therefore, toxin results will not be sent to CMS. Only C. difficile antigen results will be sent.

### C. trachomatis Antigen Detection  HC1, HC3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>C. trachomatis antigen detection (DFA)</td>
<td>HC1</td>
<td>5</td>
</tr>
<tr>
<td>C. trachomatis antigen detection (EIA)</td>
<td>HC3</td>
<td>5</td>
</tr>
</tbody>
</table>

### Fecal Lactoferrin  FLAC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal lactoferrin</td>
<td>FLAC</td>
<td>3</td>
</tr>
</tbody>
</table>

### Helicobacter pylori Antigen, Stool  HPS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helicobacter pylori antigen detection</td>
<td>HPS</td>
<td>2</td>
</tr>
</tbody>
</table>

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
The Laboratory Preparedness Exercise (LPX) was developed as a collaborative effort between the College of American Pathologists, the Centers for Disease Control and Prevention (CDC), and the Association of Public Health Laboratories (APHL). Laboratories will be sent live organisms that either exhibit characteristics of bioterrorism agents or demonstrate epidemiologic importance and will be expected to respond following Laboratory Response Network Sentinel Laboratory Guidelines if a bioterrorism agent is suspected. All agents provided are excluded from the CDC’s select agent list. These may include strains of *Bacillus anthracis*, *Yersinia pestis*, *Francisella tularensis*, and *Brucella abortus* that have been modified and are safe for testing in a laboratory that contains a certified Class II Biological Safety Cabinet and is capable of handling Category A and B agents.

**Program Information**
- Three simulated gastric biopsy specimens
- For use with methods such as CLOTEST®
- Two shipments per year
### Shiga Toxin  ST

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiga toxin</td>
<td>ST</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL liquid specimens
- For use with direct shiga toxin testing only; not compatible with culture methods, cytotoxicity assays, or PCR
- Not available to international customers due to United States export law restrictions
- Two shipments per year

### Bacterial Vaginosis  BV

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial vaginosis detection</td>
<td>BV</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid specimens
- For OSOM® BVBlue users
- Two shipments per year

### Vaginitis Screen  VS, VS1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Candida</em> sp.</td>
<td>VS*</td>
<td>5</td>
</tr>
<tr>
<td><em>Gardnerella vaginalis</em></td>
<td>VS**</td>
<td>5</td>
</tr>
<tr>
<td><em>Trichomonas vaginalis</em></td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

*The biohazard warning applies to program VS.
**Molecular users are encouraged to use *Trichomonas vaginalis*, Molecular (TVAG), on page 193.

**Program Information**
- VS - Five swabs for DNA probe technology; BD Affirm™ VP III probe detection method; three shipments per year
- VS1 - Five swabs for methods such as Sekisui OSOM Trichomonas Rapid Test, *Trichomonas vaginalis*; three shipments per year

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Mycoplasma genitalium, Molecular

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycoplasma genitalium</td>
<td>MGEN</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid specimens
- Designed for molecular techniques
- Two shipments per year

### Molecular Vaginal Panel

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candida species group</td>
<td>MVP</td>
<td>5</td>
</tr>
<tr>
<td>Candida krusei</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Candida glabrata</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Trichomonas vaginalis</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Bacterial vaginosis</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 1.0-mL liquid simulated vaginal specimens
- Designed for molecular methods such as BD MAX and Hologic
- Three shipments per year

### C. trachomatis and N. gonorrhoeae by NAA

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleic acid amplification (NAA)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Nucleic acid amplification (NAA/DNA)</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- HC6 - Three swab specimens and two 1.0-mL liquid simulated urine specimens
- HC6X - Three swab specimens; two 1.0-mL liquid simulated urine specimens in duplicate
- Three shipments per year

*The biohazard warning applies to programs HC6 and HC6X.

**Program Information**
- HC7 - Five 1.5-mL simulated body fluid specimens; designed for Cepheid users
- Three shipments per year

---

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Vaginitis Screen, Virtual Gram Stain  VS2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation of gram-stained vaginal smears</td>
<td>VS2</td>
<td>3</td>
</tr>
</tbody>
</table>

See system requirements on page 13.

### Trichomonas vaginalis, Molecular  TVAG

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichomonas vaginalis</td>
<td>TVAG</td>
<td>3</td>
</tr>
</tbody>
</table>

### Vancomycin-resistant Enterococcus  VRE

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancomycin-resistant Enterococcus (VRE) detection</td>
<td>VRE</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Three online, whole slide images
- Powered by DigitalScope technology
- Two activities per year; your CAP shipping contact will be notified via email when the activity is available

**Program Information**
- Three 1.5-mL liquid specimens
- Designed for molecular techniques
- Two shipments per year

**Program Information**
- Two swabs with diluents
- For use with molecular methods and culture-based testing
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
## Mycobacteriology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Mycobacteriology—E

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid-fast smear</td>
<td>E</td>
<td>1</td>
</tr>
<tr>
<td>Antimycobacterial susceptibility testing</td>
<td>1 graded, 1 ungraded</td>
<td></td>
</tr>
<tr>
<td>Mycobacterial identification*</td>
<td>E</td>
<td>5</td>
</tr>
</tbody>
</table>

*This procedure requires identification of *Mycobacterium tuberculosis*.

### Program Information

- Five simulated clinical isolates with diluents and one specimen for performing an acid-fast bacillus smear
- Identification may be performed by culture or molecular methods
- Two shipments per year

### Mycobacteriology—Limited—E1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid-fast smear</td>
<td>E1</td>
<td>5</td>
</tr>
<tr>
<td>Mycobacterial culture</td>
<td>E1</td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information

- Five simulated specimens for acid-fast smears and/or for the determination of the presence or absence of acid-fast bacillus by culture
- Two shipments per year

### Molecular MTB Detection and Resistance—MTR5, MTBR

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Code</td>
<td></td>
</tr>
<tr>
<td>MTR5</td>
<td>5</td>
</tr>
<tr>
<td>MTBR</td>
<td>3</td>
</tr>
</tbody>
</table>

- *Mycobacterium tuberculosis* detection
- Rifampin resistance

### Program Information

- MTR5 - Five 1.25-mL simulated sputum specimens for use with molecular methods
- MTBR - Three 1.25-mL simulated sputum specimens for use with molecular methods
- Not suitable for culture
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
## Mycology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Mycology and Aerobic Actinomycetes  

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antifungal susceptibility testing</td>
<td>F</td>
<td>1</td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>F</td>
<td>2 per year</td>
</tr>
<tr>
<td>Mold and yeast identification</td>
<td>F</td>
<td>5</td>
</tr>
</tbody>
</table>

### Yeast  

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antifungal susceptibility testing</td>
<td>F1</td>
<td>1</td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>F</td>
<td>2 per year</td>
</tr>
<tr>
<td>Yeast identification</td>
<td>F</td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information
- Five loops for culture with diluents in duplicate and one 1.0-mL simulated cerebrospinal fluid specimen (A and B shipments only)
- Identification of yeasts, molds, and aerobic actinomycetes may be performed by molecular- and culture-based methods
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Candida Culture  F3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast identification</td>
<td>F3</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five loops for culture with diluents in duplicate
- For laboratories identifying *Candida* sp. only
- Identification of *Candida* species may be performed by culture, molecular, and rapid methods
- Three shipments per year

### Yeast Blood Culture, Molecular  YBC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood culture yeast identification</td>
<td>YBC</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**
- This program is for identification of fungal organisms such as yeast isolated from blood culture bottles.
- This program is not for the inoculation of blood culture bottles.

### Cryptococcal Antigen Detection  CRYP

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryptococcal antigen</td>
<td>CRYP</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 1.0-mL simulated blood culture fluid specimens
- For laboratories using molecular multiplex panels
- Three shipments per year

### Galactomannan  FGAL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galactomannan - <em>Aspergillus</em></td>
<td>FGAL</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three liquid specimens
- For use with methods such as Bio-Rad Platelia™
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Fungal Serology  FSER

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serological detection of specific fungal antibodies</td>
<td>FSER</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three serum specimens
- For use with immunodiffusion methods
- Designed for the detection of antibodies to *Aspergillus, Blastomyces, Coccidioides,* and *Histoplasma*
- Two shipments per year

### Fungal Smear  FSM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOH preparation/calcofluor white</td>
<td>FSM</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three unstained slides
- Two shipments per year

### India Ink  IND

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>India ink</td>
<td>IND</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**
- Two liquid specimens
- Two shipments per year

### Pneumocystis jirovecii  PCP1, PCP2, PCP4

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCP – Calcofluor white stain</td>
<td>PCP1, PCP2, PCP4</td>
<td>3</td>
</tr>
<tr>
<td>PCP – DFA stain</td>
<td>PCP1, PCP2, PCP4</td>
<td>3</td>
</tr>
<tr>
<td>PCP – GMS stain</td>
<td>PCP1, PCP2, PCP4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three images, each available as photographs and online images for *Pneumocystis jirovecii*
- Two shipments per year
Parasitology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parasitology</strong> P, P3, P4, P5</td>
<td></td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Challenges per Shipment</strong></td>
</tr>
<tr>
<td>Fecal suspension (wet mount)</td>
<td>P: 2, P3: 5, P4: 2</td>
</tr>
<tr>
<td>Fecal suspension (<strong>Giardia</strong> and <strong>Cryptosporidium</strong> immunoassays and/or modified acid-fast stain)**</td>
<td>P: 2, P3: 1, P4: 1, P5: 5</td>
</tr>
<tr>
<td>Giemsa-stained blood smear</td>
<td>P: 1</td>
</tr>
<tr>
<td>Preserved slide (for permanent stain)</td>
<td>P: 2, P3: 3</td>
</tr>
</tbody>
</table>

Additional Information

- The proficiency testing materials used for the Parasitology programs contain formalin as a preservative.
- Modified acid-fast stain results do not meet CLIA requirements for parasite identification.
- Number of specimen types are indicated in chart.

Program Information

- **P** - Five specimens consisting of thin and thick films for blood and tissue parasite identification, preserved slides for permanent stain, 0.75-mL fecal suspensions for direct wet mount examination, photographs, and/or online images; two 0.75-mL fecal suspensions for **Giardia** and **Cryptosporidium** immunoassays and/or modified acid-fast stain
- **P3** - Five 0.75-mL fecal suspensions for direct wet mount examination, photographs, and/or online images; one 0.75-mL fecal suspension for **Giardia** and **Cryptosporidium** immunoassays and/or modified acid-fast stain
- **P4** - Five specimens consisting of 0.75-mL fecal suspensions for direct wet mount examination, preserved slides for permanent stain, photographs, and/or online images; one 0.75-mL fecal suspension for **Giardia** and **Cryptosporidium** immunoassays and/or modified acid-fast stain
- **P5** - Five 0.75-mL fecal suspensions for **Giardia** and **Cryptosporidium** immunoassays and/or modified acid-fast stain
- Three shipments per year
### Blood Parasite (BP)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood parasite identification</td>
<td>BP</td>
<td></td>
</tr>
<tr>
<td>(thin/thick film sets*)</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

*This program will include corresponding thick films when available.

### Rapid Malaria (RMAL)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid malaria detection</td>
<td>RMAL</td>
<td></td>
</tr>
<tr>
<td>Plasmodium falciparum only</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Detects *Plasmodium falciparum* specific histidine-rich protein 2 (HRP2). May not be compatible with methods that use pLDH enzyme detection for mixed malaria infections.

### Expanded Parasitology (PEX)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parasite identification</td>
<td>PEX</td>
<td></td>
</tr>
</tbody>
</table>

This program provides an educational opportunity to challenge laboratory professionals’ competency in the identification of parasites utilizing photo images.

### Ticks, Mites, and Other Arthropods (TMO)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tick, mite, and arthropod identification</td>
<td>TMO</td>
<td></td>
</tr>
</tbody>
</table>

### Worm Identification (WID)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worm identification</td>
<td>WID</td>
<td></td>
</tr>
</tbody>
</table>

Program Information

- Five Giemsa-stained blood film sets, photographs, and/or online images
- Percent parasitemia reporting is provided when appropriate for educational purposes
- A variety of blood parasites, including *Plasmodium*, *Babesia*, *Trypanosoma*, and filarial worms
- Three shipments per year

Program Information

- Three 0.5-mL antigen specimens
- Two shipments per year

Program Information

- Three images, each available as photographs and online images
- Two shipments per year

Program Information

- Three images, each available as photographs and online images
- Two shipments per year
Virology

Guide for Ordering Regulated Virology Programs

<table>
<thead>
<tr>
<th>Program Code</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Viral Identification</td>
</tr>
<tr>
<td>VR1</td>
<td></td>
</tr>
<tr>
<td>VR2</td>
<td></td>
</tr>
<tr>
<td>VR3</td>
<td></td>
</tr>
<tr>
<td>VR4</td>
<td></td>
</tr>
<tr>
<td>HC4</td>
<td></td>
</tr>
<tr>
<td>ID3</td>
<td></td>
</tr>
<tr>
<td>ID5</td>
<td></td>
</tr>
</tbody>
</table>

Guide to Virology Testing

Use this flowchart as a guide for ordering the appropriate Virology programs for your laboratory’s testing menu. For the subspecialty of virology, participants must test five specimens per mailing. If you have any questions, please call the Customer Contact Center at 800-323-4040 or 847-832-7000 (Country code: 1) Option 1.

- For Comprehensive Virology Culture Testing
  Select VR1 (page 201)

- For Virology Antigen Testing by Immunofluorescence
  Select VR2 (page 201)

- For Viral Serology Testing
  Select VR3, VR3M (page 213)

- For Virology Antigen by EIA or Latex Agglutination
  Select VR4 (page 201)

- For Herpes Simplex Virus Culture Testing
  Select HC4 (page 202)

- For Viral Load Testing
  Select HV2, HCV2, HBVL, HBVL5, VLS, VLS2 (pages 205-206)

- For Nucleic Acid Amplification
  Select COV2, ID1, ID1T, ID2, ID3, ID5, VBDM (pages 202-206)
### Virology Culture VR1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlamydia trachomatis culture</td>
<td>VR1</td>
<td>1</td>
</tr>
<tr>
<td>Viral isolation/identification</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

### Virology Antigen Detection (DFA) VR2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenovirus antigen</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Cytomegalovirus antigen</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Herpes simplex virus (HSV) antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Influenza A antigen</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Influenza B antigen</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Parainfluenza antigen</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV) antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Varicella-zoster antigen</td>
<td></td>
<td>1 1</td>
</tr>
<tr>
<td>Educational challenge</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Virology Antigen Detection (Non-DFA) VR4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenovirus (Not 40/41) antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza A antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza B antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV) antigen</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Rotavirus antigen</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information
- Five 0.5-mL specimens for viral culture and one 0.5-mL specimen for *Chlamydia trachomatis* culture
- Three shipments per year
- Five 5-well slide specimens
- Three shipments per year
- Five 1.5-mL specimens
- For use with enzyme immunoassay and/or latex agglutination methods
- Specimens not designed for molecular methods
- Three shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Herpes Simplex Virus  HC4

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herpes simplex virus culture</td>
<td>HC4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- Five 0.5-mL lyophilized specimens
- Three shipments per year

### Human Papillomavirus  HPV

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human papillomavirus</td>
<td>HPV</td>
<td>2</td>
</tr>
</tbody>
</table>

For laboratories using Digene, SurePath, and/or ThinPrep collection media, see page 308.

**Program Information**
- Two simulated cervical specimens contained in Digene transport media
- For Digene Hybrid Capture only
- Two shipments per year

### Nucleic Acid Amplification, Viruses  ID1, ID1T

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytomegalovirus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Enterovirus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Epstein-Barr virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Herpes simplex virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Human herpesvirus 6</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Human herpesvirus 8</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Parvovirus B19</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>Varicella-zoster virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>BK virus</td>
<td>ID1</td>
<td>1</td>
</tr>
<tr>
<td>JC virus</td>
<td>ID1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Program Information**
- ID1- Eight 1.0-mL liquid specimens
- ID1T - Two 1.0-mL liquid specimens
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
## Virology

### Mpox Virus MPOX

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mpox virus detection</td>
<td>MPOX</td>
<td>3</td>
</tr>
</tbody>
</table>

This program is only available to customers within the US.

### SARS-CoV-2 Molecular COV2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2</td>
<td>COV2</td>
<td>3</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, COV2Q, below.

### Quality Cross Check—SARS-CoV-2 Molecular COV2Q

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2</td>
<td>COV2Q</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program COV2 above. For additional information about the Quality Cross Check program, see page 40.

**The Quality Cross Check Program:**
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

### SARS-CoV-2 Antigen COVAG

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 antigen</td>
<td>COVAG</td>
<td>3</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, COVAQ, on page 204.
Quality Cross Check—SARS-CoV-2 Antigen  COVAQ

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 Antigen</td>
<td>COVAQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program COVAG on page 203. For additional information about the Quality Cross Check program, see page 40.

The Quality Cross Check Program:
- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

SARS-CoV-2 Serology  COVS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 antibody (total, IgG, IgM, and IgA)</td>
<td>COVS</td>
<td>3</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, COVSQ, on page 50.

Nucleic Acid Amplification, Respiratory  ID2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenovirus</td>
<td>ID2</td>
<td>1</td>
</tr>
<tr>
<td>Coronavirus/Rhinovirus*</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Influenza virus*</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Parainfluenza virus</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*Coronavirus/Rhinovirus and Influenza virus will be included in the following shipments:
- Shipment A: Coronavirus and Influenza A (does not include SARS-CoV-2)
- Shipment B: Rhinovirus and Influenza B

Program Information
- Three 0.5-mL simulated respiratory specimens in triplicate
- Report up to three instruments
- Two shipments per year

Program Information
- Three 0.5-mL serum specimens
- Appropriate for assays that detect antibodies to nucleocapsid, spike, combined antigen (nucleocapsid and spike), and the receptor binding domain of the spike protein
- Two shipments per year

Program Information
- Six 1.0-mL liquid specimens
- Two shipments per year
### Nucleic Acid Amplification, Respiratory Limited — ID3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A virus</td>
<td>ID3</td>
<td>5</td>
</tr>
<tr>
<td>Influenza B virus</td>
<td>ID3</td>
<td>5</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td>ID3</td>
<td>5</td>
</tr>
<tr>
<td>SARS-CoV-2*</td>
<td>ID3</td>
<td>5</td>
</tr>
</tbody>
</table>

*SARS-CoV-2 does not contain human genome material or sequences from human RNase P gene. For multiple instrument reporting options, see the Quality Cross Check program ID3Q, below.

### Quality Cross Check—Nucleic Acid Amplification, Respiratory Limited — ID3Q

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza A virus</td>
<td>ID3Q</td>
<td>3</td>
</tr>
<tr>
<td>Influenza B virus</td>
<td>ID3Q</td>
<td>3</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td>ID3Q</td>
<td>3</td>
</tr>
<tr>
<td>SARS-CoV-2</td>
<td>ID3Q</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program ID3 above. For additional information about the Quality Cross Check program, see page 40.

### HSV, VZV—Molecular — ID5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herpes simplex virus</td>
<td>ID5</td>
<td>5</td>
</tr>
<tr>
<td>Varicella-zoster virus</td>
<td>ID5</td>
<td>5</td>
</tr>
</tbody>
</table>

### Hepatitis Viral Load — HCV2, HBVL, HBVL5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges per Shipment</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCV genotyping</td>
<td>1</td>
<td>HCV2, HBVL</td>
</tr>
<tr>
<td>HCV, qualitative</td>
<td>1</td>
<td>HBVL5</td>
</tr>
<tr>
<td>HCV viral load</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>HBV viral load</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Program Information

- Five 1.0-mL liquid specimens
- Designed for molecular techniques
- Three shipments per year

Program Information

- Three 1.0-mL liquid specimens
- Designed for molecular techniques
- Report up to three instruments
- Two shipments per year

Program Information

- HCV2 - Five 1.5-mL liquid plasma specimens; three shipments per year
- HBVL - Three 1.5-mL plasma specimens; two shipments per year
- HBVL5 - Five 1.5-mL plasma specimens; three shipments per year
### HIV Viral Load  HV2, HIVG

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-RNA viral load</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>HIV genotyping*</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*HIV genotyping is for laboratories reporting reverse transcriptase, protease, and/or integrase mutations.

### Viral Load  VLS, VLS2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BK viral load</td>
<td>VLS  VLS2</td>
<td>2</td>
</tr>
<tr>
<td>CMV viral load</td>
<td>VLS  VLS2</td>
<td>2</td>
</tr>
<tr>
<td>EBV viral load</td>
<td>VLS  VLS2</td>
<td>2</td>
</tr>
<tr>
<td>Adenovirus viral load</td>
<td>VLS  VLS2</td>
<td>2</td>
</tr>
<tr>
<td>HHV6 viral load</td>
<td>VLS  VLS2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Viral Load Calibration Verification/Linearity  LN38, LN39, LN45

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Target Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMV viral load</td>
<td>LN38*  LN39  LN45</td>
<td>316.0–1.0M IU/mL</td>
</tr>
<tr>
<td>HIV viral load</td>
<td>LN39</td>
<td>50.0–5.0M IU/mL</td>
</tr>
<tr>
<td>HCV viral load</td>
<td>LN45</td>
<td>50–280M IU/mL</td>
</tr>
</tbody>
</table>

*The biohazard warning applies to program LN38.

View your expedited linearity evaluations within two business days by logging into e-LAB Solutions Suite.

### Vector-Borne Disease—Molecular  VBDM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zika virus</td>
<td>VBDM</td>
<td>3</td>
</tr>
</tbody>
</table>

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Multidiscipline Microbiology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Guide for Ordering Regulated Molecular Multidiscipline Programs

<table>
<thead>
<tr>
<th>Program Code</th>
<th>Procedure</th>
<th>Bacterial Identification</th>
<th>Viral Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GIP5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDM5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDPN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Nucleic Acid Amplification, Organisms  IDO, IDN

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IDO</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IDN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bordetella pertussis/parapertussis</em></td>
<td>IDO</td>
<td>1</td>
</tr>
<tr>
<td><em>Legionella pneumophila/Chlamydia pneumoniae</em></td>
<td>IDO</td>
<td>1</td>
</tr>
<tr>
<td>Methicillin-resistant Staphylococcus aureus</td>
<td>IDO</td>
<td>1</td>
</tr>
<tr>
<td>Molecular typing (bacterial isolates)</td>
<td>IDO</td>
<td>1</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis</td>
<td>IDO</td>
<td>1</td>
</tr>
<tr>
<td>Mycoplasma pneumoniae</td>
<td>IDO</td>
<td>1</td>
</tr>
<tr>
<td>Vancomycin-resistant Enterococcus</td>
<td>IDO</td>
<td>1</td>
</tr>
</tbody>
</table>

*Legionella pneumophila/Chlamydia pneumoniae will be included in the following shipments:
  - Shipment A: *Chlamydia pneumoniae*
  - Shipment B: *Legionella pneumophila*

### Program Information

- **IDO** - Seven liquid or swab simulated clinical isolate specimens and two diluents
- **IDN** - Six liquid or swab simulated clinical isolate specimens and two diluents; designed for international laboratories that cannot receive MTB
- Two shipments per year

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Joint Infection Panel  JIP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaerococcus prevotii/vaginalis</td>
<td>JIP</td>
<td>5</td>
</tr>
<tr>
<td>Bacteroides fragilis</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Candida albicans</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Citrobacter spp.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Cutibacterium avidum/granulosum</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Enterobacter cloacae complex</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Enterococcus faecalis</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Enterococcus faecium</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Finegoldia magna</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Haemophilus influenzae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Kingella kingae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Klebsiella aerogenes</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Klebsiella pneumoniae group</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Morganella morganii</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Neisseria gonorrhoeae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Parvimonas micra</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Peptoniphilus spp.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Peptostreptococcus anaerobius</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Proteus spp.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Salmonella spp.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Serratia marcescens</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Staphylococcus lugdunensis</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Streptococcus agalactiae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Streptococcus pneumoniae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Streptococcus pyogenes</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- Five 0.5-mL liquid specimens
- Designed for molecular multiplex panel users
- Program challenges may contain the following antimicrobial resistance genes on a rotational basis: CTX-M, IMP, KPC, mecA/C and MREJ, NDM, OXA-48-like, vanA/B, and VIM
- Three shipments per year
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges per Shipment</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IDM5</td>
<td>IDME</td>
</tr>
<tr>
<td>Escherichia coli K1</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Haemophilus influenzae</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Listeria monocytogenes</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Neisseria meningitidis</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Streptococcus agalactiae</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Streptococcus pneumoniae</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Enterovirus</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Herpes simplex virus 1 (HSV-1)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Herpes simplex virus 2 (HSV-2)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Human herpesvirus 6 (HHV-6)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Human parechovirus</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Varicella-zoster virus (VZV)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Cryptococcus neoformans/gattii</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Only IDM5 analytes in **bold** type will meet CMS requirements for bacteriology and virology identification. For programs that include more than one sub-specialty of microbiology, per CLIA, your laboratory is required to test five specimens, three times a year, for each sub-specialty your laboratory performs.

**Program Information**
- IDM5 - Five 1.0-mL liquid specimens; three shipments per year
- IDME - Three 1.0-mL liquid specimens; two shipments per year
- Designed for molecular multiplex panel users
### Infectious Disease, Respiratory Panel  IDR

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenovirus</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Bocavirus</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td><em>Bordetella (pertussis, parapertussis, bronchiseptica, holmesii)</em></td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td><em>Chlamydia pneumoniae</em></td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Coronavirus</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Influenza A</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Influenza B</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td><em>Legionella pneumophila</em></td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td><em>Mycoplasma pneumoniae</em></td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Parainfluenza type 1, 2, 3</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Parainfluenza type 4</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>Rhinovirus/Enterovirus</td>
<td>IDR</td>
<td>5</td>
</tr>
<tr>
<td>SARS-CoV-2*</td>
<td>IDR</td>
<td>5</td>
</tr>
</tbody>
</table>

*SARS-CoV-2* specimens do not contain human genome material or sequences from the human RNase P gene.

For programs that include more than one sub-specialty of microbiology, per CLIA, your laboratory is required to test five specimens, three times a year, for each sub-specialty your laboratory performs.

---

### Atlas of Fundamental Infectious Diseases Histopathology

This resource is rich in detailed information and real-world examples to help anatomic pathologists identify infectious organisms in tissue, study patterns of inflammation for clues, understand which stains are best for detecting specific microorganisms, spot infectious disease mimics, and select ancillary methods of detection.

Add it to your order.

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Item number: PUB127
Softcover; 304 pages; 800+ images and tables; 2018
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acinetobacter calcoaceticus-baumannii complex</td>
<td>IDPN</td>
<td>5</td>
</tr>
<tr>
<td>Adenovirus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Coronavirus*</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Chlamydia pneumoniae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Enterobacter cloacae complex</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Haemophilus influenzae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Rhinovirus/Enterovirus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza A</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Influenza B</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Klebsiella aerogenes</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Klebsiella oxytoca</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Klebsiella pneumoniae group</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Legionella pneumophila</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Moraxella catarrhalis</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Mycoplasma pneumoniae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Parainfluenza virus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Proteus spp.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Serratia marcescens</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Streptococcus agalactiae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Streptococcus pneumoniae</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Streptococcus pyogenes</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

*Laboratories performing SARS-CoV-2 testing, see the COV2 program on page 203.

Includes antimicrobial resistance genes, as appropriate. For programs that include more than one sub-specialty of microbiology, per CLIA, your laboratory is required to test five specimens, three times a year, for each sub-specialty your laboratory performs.
### Gastrointestinal Panel GIP5, GIP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Challenges per Shipment</th>
<th>Program Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>GIP5</td>
</tr>
<tr>
<td>Adenovirus</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Astrovirus</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Campylobacter</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Clostridioides (Clostridium) difficile, toxin A/B</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Cryptosporidium</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Cyclospora cayetanensis</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Entamoeba histolytica</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Enter aggregative E. coli (EAEC)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Enteropathogenic E. coli (EPEC)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Enterotoxigenic E. coli (ETEC) LT/ST</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Escherichia coli 0157</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Giardia duodenalis (lamblia)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Norovirus GI/GII</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Plesiomonas shigelloides</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Rotavirus A</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Salmonella</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Sapovirus</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Shiga-like toxin producing E. coli (STEC) stx1/stx2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Shigella/Enteroinvasive E. coli (EIEC)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Shigella</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Vibrio cholerae/Vibrio group</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Yersinia enterocolitica</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Only GIP5 analytes in **bold** type will meet CMS requirements for bacteriology and virology identification. For programs that include more than one sub-specialty of microbiology, per CLIA, your laboratory is required to test five specimens, three times a year, for each sub-specialty your laboratory performs.

### Program Information
- **GIP5** - Five 1.0-mL simulated stool specimens; three shipments per year
- **GIP** - Three 1.0-mL simulated stool specimens; two shipments per year
- Designed for molecular multiplex panel users
- Not available to international customers due to United States export law restrictions
Infectious Disease Serology

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Infectious Disease Serology  VR3, VR3M

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytomegalovirus (CMV) – IgG, IgM, and total antibodies</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td>Epstein-Barr virus (EBV) – VCA – IgG, IgM EBNA – IgG, IgM, and total antibodies EA – IgG</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td><em>Helicobacter pylori</em> – IgG, IgA, and total antibodies</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td>Herpes simplex virus (HSV) – IgG antibody</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td><em>Mycoplasma pneumoniae</em> – IgG, IgM, and total antibodies</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td>Mumps – IgG</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td>Rubeola virus (English measles) – IgG antibody</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td><em>Toxoplasma gondii</em> – IgG, IgM, and total antibodies</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
<tr>
<td>Varicella-zoster virus – IgG and total antibodies</td>
<td>VR3 VR3M</td>
<td>1</td>
</tr>
</tbody>
</table>

### Tick-Transmitted Diseases  TTD

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibodies to tick-transmitted disease organisms</td>
<td>TTD</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**

- VR3 - Eight 0.5-mL lyophilized defibrinated plasma specimens
- VR3M - One 0.5-mL lyophilized defibrinated plasma specimen
- Two shipments per year
Rely on this reference for a rapidly growing field.

*Flow Cytometry in Evaluation of Hematopoietic Neoplasms: A Case-Based Approach* is a practical guide to flow cytometric analysis in the workup of hematopoietic neoplasms presenting in the peripheral blood, marrow, lymphoid tissue, and extranodal sites. This text provides pathologists, residents, laboratory technologists, and hematologists with both a study guide and an atlas for regular consultation in the clinical flow cytometry laboratory.

Add it to your order.

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

**Item number:** PUB221

Hardcover; 90+ figures comprising hundreds of dot plots; 176 pages; 2012
Our programs closely mimic patient testing to ensure accuracy.

- Test specimen levels that reflect clinical decision points.
- Keep current with the latest laboratory best practices with educational content supplied in our participant summary reports.
- Gain confidence in your results by comparing your performance against the largest peer groups.
## Immunology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Immunology</th>
<th>ANA, ASO, CRP, HCG, IM, RF/RFX, RUB/RUBX, IL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>ANA</td>
<td>ASO</td>
</tr>
<tr>
<td>Antinuclear antibody (ANA)*</td>
<td></td>
</tr>
<tr>
<td>Antistreptolysin O (ASO)*</td>
<td></td>
</tr>
<tr>
<td>C-reactive protein, qualitative/quantitative</td>
<td></td>
</tr>
<tr>
<td>hCG, serum, qualitative/quantitative</td>
<td></td>
</tr>
<tr>
<td>Infectious mononucleosis</td>
<td></td>
</tr>
<tr>
<td>Rheumatoid factor*</td>
<td></td>
</tr>
<tr>
<td>Rubella (IgG)*</td>
<td></td>
</tr>
</tbody>
</table>

*ANA, ASO, Rheumatoid factor, and Rubella are regulated analytes and are graded for both qualitative and quantitative methods. Only qualitative results will be reported to CMS. Semiquantitative and/or titer results for these analytes are ungraded/educational in these programs and do not meet regulatory requirements.

### Program Information
- ANA, RUB - Five 0.5-mL serum specimens
- ANA - Three online educational pattern interpretation challenges per year
- ASO, HCG, RF - Five 1.0-mL serum specimens
- CRP - Two 0.5-mL serum specimens; not appropriate for high-sensitivity CRP (hsCRP) methods
- IM - Five 0.6-mL serum specimens
- RFX - All program RF specimens in duplicate
- RUBX - All program RUB specimens in duplicate
- IL - All immunology specimens except RFX and RUBX

### Immunology, General

<table>
<thead>
<tr>
<th>Immunology, General</th>
<th>IG/IGX</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>Alpha-1 antitrypsin</td>
<td></td>
</tr>
<tr>
<td>Complement C3</td>
<td></td>
</tr>
<tr>
<td>Complement C4</td>
<td></td>
</tr>
<tr>
<td>Haptoglobin</td>
<td></td>
</tr>
<tr>
<td>IgA</td>
<td></td>
</tr>
<tr>
<td>IgE</td>
<td></td>
</tr>
<tr>
<td>IgG</td>
<td></td>
</tr>
<tr>
<td>IgM</td>
<td></td>
</tr>
<tr>
<td>Total kappa/lambda ratio</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- IG - Ten 1.0-mL serum specimens
- IGX - All program IG specimens in duplicate
- Conventional and International System of Units (SI) reporting offered
- Three shipments per year
### Immunology, Special; Immunology Special, Limited; and *H. pylori* IgG Antibody  S2, S4, S5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticentromere antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-DNA antibody double-stranded</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Antiglomerular basement membrane (GBM), IgG antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Antimitochondrial antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Antineutrophil cytoplasmic antibody (ANCA, anti-MPO, anti-PR3)</td>
<td>S2</td>
<td>2</td>
</tr>
<tr>
<td>Anti-RNP antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-Ro52 antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-Ro60 antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-Sm antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-Sm/RNP antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Antismooth muscle antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-SSA antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-SSB antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Anti-SSA/SSB antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Antithyroglobulin antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Antithyroid peroxidase antibody/ Antithyroid microsomal antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Ceruloplasmin</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Haptoglobin</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td><em>Helicobacter pylori</em>, IgG antibody</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>IgD</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>IgG</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>IgG subclass proteins</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Prealbumin (transthyretin)</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Total kappa/lambda ratio</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
<tr>
<td>Transferrin</td>
<td>S2 S4 S5</td>
<td>2</td>
</tr>
</tbody>
</table>

Program S2 is not appropriate for antimitochondrial antibody assays that are specific for the M2 antibody. Refer to program H on page 218.

### Infectious Mononucleosis, Waived  IMW

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious mononucleosis, waived</td>
<td>IMW</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- S2 - Twenty-two (0.5- to 1.0-mL) serum specimens
- S4 - Eight (0.5- to 1.0-mL) serum specimens
- S5 - Two 1.0-mL serum specimens
- Two shipments per year

Infectious Mononucleosis, Waived  IMW

Program Information
- Three 0.6-mL serum specimens
- Two shipments per year
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-2-Macroglobulin A2MG</td>
<td>A2MG</td>
<td>3</td>
</tr>
<tr>
<td>Antichromatin Antibody ACA</td>
<td>ACA</td>
<td>3</td>
</tr>
<tr>
<td>Antifilamentous Actin IgG Antibody FCN</td>
<td>FCN</td>
<td>3</td>
</tr>
<tr>
<td>Antihistone Antibody AHT</td>
<td>AHT</td>
<td>3</td>
</tr>
<tr>
<td>Antimitochondrial M2 Antibody H</td>
<td>H</td>
<td>2</td>
</tr>
<tr>
<td>Autoimmune Gastritis Markers APC</td>
<td>APC</td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**

- Three 0.5-mL serum specimens
- Two shipments per year
## Antiphospholipid Antibody  ACL

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticardiolipin antibody (polyclonal, IgG, IgM, and IgA)</td>
<td>ACL</td>
<td></td>
</tr>
<tr>
<td>Beta-2-glycoprotein I (polyclonal, IgG, IgM, and IgA)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- Three 0.5-mL lyophilized serum specimens
- Two shipments per year

## Antiphosphatidylserine Antibody  APS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticardiolipin antibody (polyclonal, IgG, IgM, and IgA)</td>
<td>APS</td>
<td></td>
</tr>
<tr>
<td>Antiphosphatidylserine antibody (IgG, IgM, and IgA)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Beta-2-glycoprotein I (polyclonal, IgG, IgM, and IgA)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Antiphosphatidylserine/prothrombin antibody (aPS/PT)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- Three 0.5-mL lyophilized serum specimens
- Two shipments per year

## Antiribosomal P Antibody  ARP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiribosomal P antibody</td>
<td>ARP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- Three 0.5-mL serum specimens
- Two shipments per year

## Anti-Saccharomyces cerevisiae Antibody  ASC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Saccharomyces cerevisiae antibody (lgG and IgA)</td>
<td>ASC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

### Program Information
- Two 1.0-mL serum specimens
- Two shipments per year
### Celiac Serology  CES/CESX

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiendomysial antibody (IgA and IgG)</td>
<td>CES CESX</td>
<td>3</td>
</tr>
<tr>
<td>Antiendomysial antibody screen (IgA and IgG)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Antigliadin antibody (IgA and IgG)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide (DGP) antibody (IgA and IgG)</td>
<td>CES CESX</td>
<td>3</td>
</tr>
<tr>
<td>Anti-DGP antibody screen (IgA and IgG)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Antitissue transglutaminase (tTG) antibody (IgA and IgG)</td>
<td>CES CESX</td>
<td>3</td>
</tr>
<tr>
<td>Anti-DGP and anti-tTG antibody screen (IgA and IgG)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Cyclic Citrullinated Peptide Antibody (Anti-CCP)  CCP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-CCP</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rheumatoid factor isotypes (IgA, IgM, and IgG)</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

### Cytokines  CTKN

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interferon (IFN)-gamma</td>
<td>CTKN</td>
<td>3</td>
</tr>
<tr>
<td>Interleukin (IL)-1 beta</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-6</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-8</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>IL-10</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Tumor necrosis factor (TNF)-alpha</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Vascular endothelial growth factor (VEGF)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
### Diagnostic Allergy  SE

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IgE, multiallergen screen, qualitative</td>
<td>SE</td>
<td>5</td>
</tr>
<tr>
<td>IgE, total</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Specific allergens</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>

### High-Sensitivity C-Reactive Protein  HSCRP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-sensitivity C-reactive protein</td>
<td>HSCRP</td>
<td>3</td>
</tr>
</tbody>
</table>

### Liver-Kidney Microsomal Antibody (Anti-LKM)  LKM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-LKM</td>
<td>LKM</td>
<td>2</td>
</tr>
</tbody>
</table>

### M. tuberculosis-Stimulated Infection Detection  QF

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. tuberculosis</td>
<td>QF</td>
<td>2</td>
</tr>
</tbody>
</table>

This program is appropriate for the QIAGEN QuantiFERON®-TB Gold and Gold Plus, DiaSorin Liaison QuantiFERON-TB Gold Plus, and SD Biosensor Standard methods.

### Rheumatic Disease Special Serologies  RDS

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Jo-1 (antihistidyl t-RNA synthetase)</td>
<td>RDS</td>
<td>1</td>
</tr>
<tr>
<td>Anti-Scl-70 (anti-DNA topoisomerase)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
**SARS-CoV-2 Serology   COVS**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 antibody (total, IgG, IgM, and IgA)</td>
<td>COVS</td>
<td>3</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, COVSQ, below.

**Quality Cross Check—SARS-CoV-2 Serology   COVSQ**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-CoV-2 antibodies (Total, IgG, IgM)</td>
<td>COVSQ</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program COVS, above. For additional information about the Quality Cross Check program, see page 40.

**The Quality Cross Check Program:**

- Provides a solution for monitoring performance across multiple instruments and is in compliance with the CMS directive regarding proficiency testing on multiple instruments.
- Simplifies instrument comparability efforts by providing custom reports with both peer group comparison and instrument comparability statistics.

**Syphilis Serology   G**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syphilis</td>
<td>G</td>
<td>5</td>
</tr>
</tbody>
</table>

Use with VDRL, RPR, MHA-TP/TP-PA/PK-TP/TPHA, EIA, CMIA, multiplex flow immunoassay, TP-LIA IgG, FTA-ABS, and USR methods. Laboratories performing syphilis serology on CSF specimens may also use this program.
### Total Hemolytic Complement CH50

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total hemolytic complement, 50% lysis</td>
<td>CH50</td>
<td>2</td>
</tr>
<tr>
<td>Total hemolytic complement, 100% lysis</td>
<td>CH50</td>
<td>2</td>
</tr>
</tbody>
</table>

### Viscosity V

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity</td>
<td>V</td>
<td>2</td>
</tr>
</tbody>
</table>

### Serum Free Light Chains SFLC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kappa serum free light chain</td>
<td>SFLC</td>
<td>3</td>
</tr>
<tr>
<td>Lambda serum free light chain</td>
<td>SFLC</td>
<td>3</td>
</tr>
<tr>
<td>Kappa/lambda serum free light chain ratio and ratio interpretation</td>
<td>SFLC</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Two 0.5-mL lyophilized serum specimens
- Two shipments per year

**Program Information**
- Two 10.0-mL serum specimens
- Two shipments per year

**Program Information**
- Three 1.0-mL serum specimens
- Two shipments per year

---

**Color Atlas of Flow Cytometry**

The *Color Atlas of Flow Cytometry* presents more than 70 cases from the CAP flow cytometry proficiency testing program, complete with over 270 images, photomicrographs, dot plots, survey data, and thorough discussions. Overviews of the hematopoietic disorders are also included with each section. Through peer-reviewed cases, practicing pathologists, medical technologists, residents, and students have an opportunity to identify and appreciate disease categories and specific disease entities that are particularly difficult to diagnose correctly in clinical practice.

Topics include:
- B lymphoblastic leukemia and immature B cells
- T lymphoblastic leukemia and immature T cells
- Myeloid neoplasms
- Mature B-cell neoplasms

**Add it to your order.**

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org
Flow Cytometry

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Flow Cytometry</th>
<th>FL, FL1, FL2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>Program Code</td>
</tr>
<tr>
<td>DNA content and cell cycle analysis</td>
<td>FL1</td>
</tr>
<tr>
<td>Lymphocyte immunophenotyping</td>
<td>FL2</td>
</tr>
</tbody>
</table>

These programs are not appropriate for hematology analyzers with monoclonal antibody analysis.

| Flow Cytometry—Immunophenotypic Characterization of Leukemia/Lymphoma | FL3 |
|--------------------------------------------------------------------------|
| Procedure                  | Program Code | Challenges per Shipment |
| Leukemia/lymphoma          | FL3          | 2                      |

Program Information
- FL1 - Three 1.5-mL whole blood specimens
- FL2 - Three 1.1-mL specimens; two fixed cell line specimens and one calibrator for DNA content and cell cycle analysis
- FL - All program FL1 and FL2 specimens
- Three shipments per year

Additional Information
- Program FL3 is appropriate for laboratories that perform technical component-only flow cytometry testing.
- This program has stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.

<table>
<thead>
<tr>
<th>Flow Cytometry, CD34+</th>
<th>FL4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyte</td>
<td>Program Code</td>
</tr>
<tr>
<td>CD34+</td>
<td>FL4</td>
</tr>
</tbody>
</table>

Program Information
- Two 1.5-mL stabilized human CD34+ specimens
- Two shipments per year

Program Information
- Two 1.1-mL specimens containing a cell line/whole blood mixture simulating leukemia/lymphoma; online images of tissue sections, bone marrow, and/or peripheral blood smears with clinical histories as clinically relevant and/or available
- Online, whole slide images powered by DigitalScope® technology (if applicable)
- Two shipments per year

Program Information
- Two 1.1-mL specimens containing a cell line/whole blood mixture simulating leukemia/lymphoma; online images of tissue sections, bone marrow, and/or peripheral blood smears with clinical histories as clinically relevant and/or available
- Online, whole slide images powered by DigitalScope® technology (if applicable)
- Two shipments per year
Flow Cytometry, Interpretation Only  FL5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow cytometry, interpretation only of leukemia/lymphoma</td>
<td>FL5</td>
<td>3</td>
</tr>
</tbody>
</table>

Program FL5 is for laboratories that receive flow cytometry analyses from referring laboratories to perform the interpretation of patient results.

Flow Cytometry—Post-Immunotherapy Analysis  FL6

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-immunotherapy flow cytometry analysis</td>
<td>FL6</td>
<td>3</td>
</tr>
</tbody>
</table>

Program FL6 is appropriate for laboratories that perform flow cytometry analysis on samples from patients treated with chimeric antigen receptor (CAR) T-cell or other immunotherapy regimens that cause immunophenotypic changes to normal and/or neoplastic cells.

Flow Cytometry—T-Cell Subsets Analysis  FL7

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-cell subsets analysis</td>
<td>FL7</td>
<td>2</td>
</tr>
</tbody>
</table>

Program FL7 is appropriate for laboratories that perform T-cell subset analysis for immunodeficiency and immune dysregulation. Reporting will include percentages and absolute counts for naïve and memory T cells, recent thymic emigrants, TCR alpha/beta and TCR gamma/delta T cells, and double negative (TCRalpha/beta+CD3+CD4-CD8-) T cells. Participants may include information on additional markers used in their panel to assess memory T-cell subsets.

Program Information

- Three online cases consisting of gated dot plots, clinical histories, and pertinent laboratory data, as well as images of tissue sections, bone marrow, and/or peripheral blood smears as clinically relevant and/or available
- Online, whole slide images powered by DigitalScope technology (if applicable)
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
Flow Cytometry—B-ALL Minimal Residual Disease  

**BALL**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-ALL minimal residual disease</td>
<td>BALL</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Program BALL is intended for laboratories that currently or will begin to perform minimal residual disease (MRD) testing (rare event analysis) for B lymphoblastic leukemia/lymphoma. The cases presented will be a mixture of Children's Oncology Group (COG) approved B-ALL MRD method and laboratory developed assays.
- This program has stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.

Flow Cytometry—Mature B-Cell Leukemia/Lymphoma Minimal Residual Disease  

**FL8**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mature B-cell leukemia/lymphoma minimal residual disease</td>
<td>FL8</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Program FL8 is intended for laboratories that currently or will begin to perform minimal residual disease (MRD) testing (rare event analysis) for mature B-cell leukemia/lymphoma.
- This program has stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.

Flow Cytometry—Plasma Cell Myeloma Minimal Residual Disease  

**FL9**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma cell myeloma minimal residual disease</td>
<td>FL9</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Program FL9 is intended for laboratories that currently or will begin to perform minimal residual disease (MRD) testing (rare event analysis) for plasma cell myeloma.
- This program has stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.
**Flow Cytometry—Plasma Cell Neoplasms  PCNEO**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plasma cell neoplasms</td>
<td>PCNEO</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Program PCNEO is especially helpful for laboratories that have leukemia/lymphoma assays that target plasma cell neoplasms, including cytoplasmic light chain staining.
- This program has stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.

**Flow Cytometry—Immunophenotypic Characterization of Paroxysmal Nocturnal Hemoglobinuria  PNH**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNH RBC analysis</td>
<td>PNH</td>
<td>2</td>
</tr>
<tr>
<td>PNH WBC analysis</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Program Information**

- One 1.1-mL specimen containing a cell line/whole blood mixture, simulating a plasma cell neoplasm with clinical history and pertinent laboratory data
- Two online cases consisting of gated dot plots, clinical histories, and pertinent laboratory data
- Each challenge includes online images of tissue sections, bone marrow, and/or peripheral blood smears as clinically relevant and/or available
- Online, whole slide images powered by DigitalScope technology (if applicable)
- Two shipments per year

**Additional Information**

- The PNH program complies with the recommendations from the *Guidelines for the Diagnosis and Monitoring of Paroxysmal Nocturnal Hemoglobinuria and Related Disorders by Flow Cytometry* for RBC and WBC analysis. Due to the unique nature of these human, donor-based materials, the shipping dates are subject to change. If this should occur, the CAP will provide notification prior to the originally scheduled shipping date.
- This program is appropriate for high-sensitivity testing (≤ 0.01% PNH type clone in red cells and/or granulocytes).
### Fetal Red Cell Detection  HBF

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke and flow cytometry</td>
<td>HBF</td>
<td></td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Acid elution whole slide image</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

### Rare Flow Antigen Validation  RFAV1, RFAV2, RFAV3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD1a</td>
<td>RFAV1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>RFAV2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>RFAV3</td>
<td></td>
</tr>
<tr>
<td>CD103</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>CD30</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**Additional Information**
- Programs RFAV1, RFAV2, and RFAV3 do not meet the regulatory requirements for proficiency testing.
- These programs meet the CAP Accreditation Checklist item FLO.23737, which requires semiannual testing of antigens.
- RFAV1 and RFAV3 have stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.

### ZAP-70/CD49d Analysis by Flow Cytometry  ZAP70

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeta-chain-associated protein</td>
<td>ZAP70</td>
<td></td>
</tr>
<tr>
<td>kinase 70</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>CD49d</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- RFAV1 - One 1.1-mL cell line specimen
- RFAV2 - One 1.0-mL stabilized specimen
- RFAV3 - One 1.1-mL cell line specimen
- Two shipments per year

**Additional Information**
- This program tests for intracellular ZAP-70 staining of a cell line. It allows for assessment of the laboratory's staining techniques and the antibody clone used for ZAP-70 detection.
- CD49d is an important prognostic marker for CLL by flow cytometry. This program allows assessment of the laboratory's ability to detect CD49d.
- This program has stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.
As transfusion medicine continues to automate, the CAP continues to introduce new programs to support your evolving proficiency testing needs, such as:

- Direct Antiglobulin Testing—Automated (ADAT).
Transfusion Medicine

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Transfusion Medicine</th>
<th>J, J1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>ABO grouping</td>
<td>J, J1</td>
</tr>
<tr>
<td>Rh typing</td>
<td>J, J1</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>J, J1</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>J, J1</td>
</tr>
<tr>
<td>Compatibility testing</td>
<td>J, J1</td>
</tr>
<tr>
<td>Red blood cell antigen typing</td>
<td>J, J1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transfusion Medicine—Educational Challenge</th>
<th>JE1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>Educational challenge</td>
<td>JE1</td>
</tr>
</tbody>
</table>

**Program Information**
- J - Five 3.0-mL 3% red blood cell suspensions; five 3.0-mL corresponding serum specimens; one 3.0-mL donor red blood cell suspension
- J1 - Five 3.0-mL 3% red blood cell suspensions; five 3.0-mL corresponding serum specimens
- Three shipments per year

**Program Information**
- One educational challenge, which may consist of a dry challenge and/or wet specimen for ABO grouping, Rh typing, antibody detection, antibody identification, compatibility testing, antigen typing, and/or direct antiglobulin testing
- Must order in conjunction with program J
- Three shipments per year
### Electronic Crossmatch  EXM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic crossmatch</td>
<td>EXM</td>
<td>3</td>
</tr>
</tbody>
</table>

Program EXM assists laboratories in monitoring the performance of their electronic crossmatching system.

### Transfusion Medicine—Automated  JAT

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping</td>
<td>JAT</td>
<td>5</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>I</td>
<td>5</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>I</td>
<td>5</td>
</tr>
<tr>
<td>Compatibility testing</td>
<td>I</td>
<td>5</td>
</tr>
<tr>
<td>Rh typing</td>
<td>I</td>
<td>5</td>
</tr>
</tbody>
</table>

For multiple instrument reporting options, see the Quality Cross Check program, JATQ, on page 232.

### Transfusion Medicine—Automated  Educational Challenge  JATE1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational challenge</td>
<td>JATE1</td>
<td>1</td>
</tr>
</tbody>
</table>

Program Information
- Three simulated, ISBT 128 labeled donor unit challenges and three corresponding red blood cell suspensions
- Must order in conjunction with program J
- Three shipments per year
Transfusion Medicine, Viral Markers, and Parentage Testing

Quality Cross Check—Transfusion Medicine  JATQ

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>JATQ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABO grouping</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Rh typing</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

This program does not meet regulatory requirements for proficiency testing; see program JAT on page 231. For additional information about the Quality Cross Check program, see page 40.

Stay current with new advances in clinical pathology with CPIP

The Clinical Pathology Improvement Program (CPIP) provides peer-reviewed, interactive, case-based learning activities that cover a diverse portfolio of real-life clinical scenarios. Every month, a new online module with images and clinical details is released. As the case is solved in real time, new information is shared. Grow your skills with a full year of CPIP and earn up to 15 CME credits.

Add CPIP/CPIP1 to your Surveys order.
Program EXM2 assists laboratories in monitoring the performance of their electronic crossmatching system.

### Electronic Crossmatch—Automated EXM2

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic crossmatch</td>
<td>EXM2</td>
<td>3</td>
</tr>
</tbody>
</table>

Program EXM2 assists laboratories in monitoring the performance of their electronic crossmatching system.

### In-Date Blood Product Wastage QT4

Blood for transfusion is a precious resource. At a minimum, wastage of blood that is not out-of-date represents a financial loss to the health care system. More ominously, systemic wastage of blood may reflect an environment of care that is out of control and may pose risks to patient safety.

Enrollment in this program assists laboratories in meeting regulatory requirements as follows:

- CAP Laboratory Accreditation Program Checklist statements: TRM.40875 that requires the transfusion service medical director to monitor and audit transfusion practices to ensure the appropriate use of blood; TRM.30800, Disposition Records; and TRM.32275, Component Records, regarding recording the use of each blood or component product from receipt to final disposition.
- The Joint Commission Standards QSA.05.02.01, adequate blood and blood components; QSA.05.03.03, requirements for policies and procedures for returning unused blood products to blood transfusion services; and QSA.05.22.01, records of blood product disposition.
- AABB Standards for Blood Banks and Transfusion Services assessment 8.2 that requires transfusing facilities to have a peer-review program that monitors transfusion practices for blood components.

**Objective**

Compare the rates of blood product wastage (ie, units discarded in-date) in participating hospitals and track rates of improvement over time.

**Data Collection**

On a monthly basis, participants will use blood bank records to obtain information on the total number of units transfused for each type of blood component. Participants will track the number and type of blood units that are wasted in-date and the circumstances of wastage. This monitor includes the following types of blood components: whole blood (allogeneic), red blood cells (allogeneic), frozen plasma, platelet concentrates, single donor platelets, and cryoprecipitate.

**Performance Indicators**

- Overall blood wastage rate (%)
- Wastage rates by blood component type (%)

**Performance Breakdown**

- Breakdown of circumstances of wastage (%)

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
### ABO Subgroup Typing  ABOSG

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO subgroup typing</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Rh typing</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Red Blood Cell Antigen Genotyping  RAG

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBC blood group genotyping for phenotype prediction</td>
<td>RAG</td>
<td>3</td>
</tr>
</tbody>
</table>

### Red Blood Cell Antigen Typing  RBCAT

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cell antigen typing</td>
<td>RBCAT</td>
<td>2</td>
</tr>
</tbody>
</table>

Program RBCAT is for donor centers and transfusion laboratories performing non-automated/manual red cell phenotyping for the management of patients with complex serology (i.e., alloimmunization, sickle cell disease, warm autoimmune hemolytic anemia). Challenges will include antigens such as Rh, Kell, MNSs, Duffy, and Kidd blood group system.
### Antibody Titer — ABT, ABT1, ABT2, ABT3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ABT</td>
<td>ABT1</td>
</tr>
<tr>
<td>Anti-A titer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Anti-B titer</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anti-D titer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- ABT - One 2.0-mL specimen for anti-A titer with one corresponding titer cell (3%–4% red blood cell suspension); one 2.0-mL specimen for anti-D titer with one corresponding titer cell (3%–4% red blood cell suspension)
- ABT1 - One 2.0-mL specimen for anti-A titer with one corresponding titer cell (3%–4% red blood cell suspension)
- ABT2 - One 2.0-mL specimen for anti-D titer with one corresponding titer cell (3%–4% red blood cell suspension)
- ABT3 - One 2.0-mL specimen for anti-B titer with one corresponding titer cell (3%–4% red blood cell suspension)
- Two shipments per year

### Antibody Titer — Automated — AABT, AABT1, AABT2, AABT3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AABT</td>
<td>AABT1</td>
</tr>
<tr>
<td>Anti-A titer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Anti-B titer</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anti-D titer</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- AABT - One 2.0-mL specimen for anti-A titer; one 2.0-mL specimen for anti-D titer
- AABT1 - One 2.0-mL specimen for anti-A titer
- AABT2 - One 2.0-mL specimen for anti-D titer
- AABT3 - One 2.0-mL specimen for anti-B titer
- Two shipments per year
### Transfusion-Related Cell Count  
**TRC**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platelet count (platelet-rich plasma)</td>
<td>TRC</td>
<td>5</td>
</tr>
<tr>
<td>WBC count</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Dry challenge</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

WBC counts must be performed using a Nageotte chamber, fluorescence microscopy, or by flow cytometry.

### Direct Antiglobulin Testing  
**DAT**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct antiglobulin testing</td>
<td>DAT</td>
<td>3</td>
</tr>
</tbody>
</table>

### Direct Antiglobulin Testing—Automated  
**ADAT**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct antiglobulin testing</td>
<td>ADAT</td>
<td>3</td>
</tr>
</tbody>
</table>

### Eluate Survey  
**ELU**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody elution</td>
<td>ELU</td>
<td>2</td>
</tr>
</tbody>
</table>

### Fetal Red Cell Detection  
**HBF**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke and flow cytometry</td>
<td>HBF</td>
<td>2</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Acid elution whole slide image</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

---

**Program Information**

- **Transfusion-Related Cell Count (TRC)**
  - Five 1.2-mL suspensions of platelet-rich plasma
  - Two 1.0-mL vials leukocyte-reduced platelet material
  - Two 1.0-mL vials leukocyte-reduced red blood cells
  - Three shipments per year

- **Direct Antiglobulin Testing (DAT)**
  - Three 2.0-mL 3% red blood cell suspensions
  - For use with manual method
  - Two shipments per year

- **Direct Antiglobulin Testing—Automated (ADAT)**
  - Three 4.0-mL 15% red blood cell suspensions
  - For use with automated method
  - Two shipments per year

- **Eluate Survey (ELU)**
  - Two 2.0-mL 50% red blood cell suspensions
  - Two shipments per year

- **Fetal Red Cell Detection (HBF)**
  - Two 1.2-mL liquid whole blood specimens
  - Not designed for F cell quantitation
  - Two online, whole slide images per year with optional grids for cell counting
  - Powered by DigitalScope® technology
  - Two shipments per year
### Platelet Serology

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody detection</td>
<td>PS</td>
<td>3</td>
</tr>
<tr>
<td>Platelet crossmatch</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Platelet antibody identification</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

A low concentration of sodium azide may be present in the specimens and may affect lymphocytotoxicity methods.

### Transfusion Medicine Comprehensive—Competency Assessment

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABO grouping</td>
<td>TMCA</td>
<td>2</td>
</tr>
<tr>
<td>Antibody detection</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Antibody identification</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Compatibility testing</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rh typing</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Program TMCA does not meet the regulatory requirements for proficiency testing.

### Direct Antiglobulin Test—Competency Assessment

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct antiglobulin testing</td>
<td>TMCAD</td>
<td>2</td>
</tr>
</tbody>
</table>

Program TMCAD does not meet the regulatory requirements for proficiency testing.

### Eluate Competency Assessment

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antibody elution</td>
<td>TMCAE</td>
<td>2</td>
</tr>
</tbody>
</table>

Program TMCAE does not meet the regulatory requirements for proficiency testing.
Fetal Red Cell Quantitation—Competency Assessment TMCAF

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleihauer-Betke, flow cytometry</td>
<td>TMCAF</td>
<td>2</td>
</tr>
<tr>
<td>Rosette fetal screen</td>
<td>TMCAF</td>
<td>2</td>
</tr>
<tr>
<td>Acid elution whole slide image</td>
<td>TMCAF</td>
<td>1</td>
</tr>
</tbody>
</table>

Program TMCAF does not meet the regulatory requirements for proficiency testing.

**Program Information**
- Two 1.2-mL whole blood specimens
- Two online, whole slide images per year with optional grids for cell counting
- Powered by DigitalScope technology
- Two shipments per year; order shipments individually or for an entire year

**During your inspection, if it’s not documented, it's not compliant.**

Competency Assessment Hub helps you align and document your competency assessments with your processes.

2023 Competency Assessment Hub includes:
- Flexible plans for entire networks or individual laboratories
- 67 courses with CE credit in 11 laboratory disciplines
- Tools and resources to build assessment and training records
- Management reports to track staff progress

Improve your laboratory’s readiness for inspection. Add the appropriate Competency Assessment Hub subscription to your order.
### Cord Blood and Stem Cell Processing CBT, SCP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute CD3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute CD34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacterial culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>%CD3+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>%CD34+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>%CD45+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFU-GM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total CFC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fungal culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hematocrit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemoglobin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mononuclear cell count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nucleated red cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of CD34 positive events</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of CD45 positive events</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total nucleated cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBC count</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Program Information
- **CBT** - Two 2.5-mL cord blood specimens; designed for assays required for the production of umbilical cord blood stem cell programs
- **SCP** - Two 3.0-mL peripheral blood specimens; designed for laboratories that process and assess the suitability of stem cells
- Two shipments per year

#### Additional Information
- Because these materials are human donor-based, the ship date is subject to change. If this should occur, notification will be provided prior to the scheduled date. In some instances, the program may ship in two installments.
- Due to material stability, no replacements will be available.
- These programs have stability of two days or less. The CAP cannot guarantee performance or offer credits for orders placed for shipment outside of the US and Canada.
- See International Shipping information section in the Ordering Information Supplement regarding additional dangerous goods shipping fees.

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
### Bacterial Detection in Platelets BDP, BDP5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial culture and detection systems</td>
<td>BDP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BDP5</td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**

- The Centers for Medicare & Medicaid Services (CMS) requires proficiency testing for bacterial detection/identification. Please select the appropriate program for your laboratory based on the information below.
- Program BDP is designed for donor centers/laboratories that are associated with a CMS-certified microbiology laboratory with the same CLIA number and are participating in an approved proficiency testing program for bacterial detection.
- Program BDP5 is designed for donor centers/laboratories that are performing bacterial detection for the purposes of platelet unit screening and are not associated with a CMS-certified microbiology laboratory with the same CLIA number.
- See International Shipping information section in the Ordering Information Supplement regarding additional dangerous goods shipping fees.

### Bacterial Detection in Platelets, Rapid BDPV, BDPV5

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS certified rapid immunoassay</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**

- BDPV - Two frozen specimens; two shipments per year
- BDPV5 - Five frozen specimens; three shipments per year
- For use with methods such as Verax Biomedical

**Additional Information**

- The Centers for Medicare & Medicaid Services (CMS) requires proficiency testing for bacterial detection in platelets.
- Program BDPV is designed for donor centers/laboratories that are associated with a CMS-certified microbiology laboratory with the same CLIA number and are participating in an approved proficiency testing program for bacterial detection.
- Program BDPV5 is designed for donor centers/laboratories that are performing bacterial detection for the purposes of platelet unit screening and are not associated with a CMS-certified microbiology laboratory with the same CLIA number.
- See International Shipping information section in the Ordering Information Supplement regarding additional dangerous goods shipping fees.

Refer to the Ordering Information provided for information regarding additional dangerous goods and related fees.
Transfusion Medicine: A Compendium of Educational Cases

Based on more than 10 years of educational material used in proficiency testing from the CAP Transfusion, Apheresis, and Cellular Therapy Committee, this newest book on transfusion medicine consists of 20 cases with multiple-choice questions and answers. Topics covered reflect clinical cases as well as hot topics in transfusion medicine leveraging the clinical experience of 19 highly regarded transfusion medicine experts, all leaders in the field.

Contents include:

- Blood components including plasma, platelets, and red blood cells
- Neonatal/peripartum transfusion medicine
- Special situations such as hemolysis and transplantation
- Regulatory issues

Add Transfusion Medicine: A Compendium of Educational Cases (PUB228) to your order.

Or, view sample pages and purchase online:
- printed books at estore.cap.org

---

Program Information

- One dry challenge and one wet challenge consisting of a serum specimen(s) and/or red blood cell suspensions
- Two shipments per year

---

Expanded Transfusion Medicine Exercises ETME1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expanded challenges</td>
<td>ETME1</td>
<td>2</td>
</tr>
</tbody>
</table>

Additional Information

Program ETME1 is an educational opportunity that offers:

- More challenging and/or complex antibody identification
- Comprehensive case studies in transfusion medicine
- Simulated collaboration with other professionals, including those within or outside your institution
- A method for determining the laboratory's ability to recognize and integrate problem solving skills in transfusion medicine

The wet challenge may consist of specimens for ABO grouping, Rh typing, antibody detection, antibody identification, compatibility testing, antigen typing, direct antiglobulin testing, antibody titer, and/or antibody elution.
# Viral Markers

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

## Viral Markers—Series 1  VM1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HAV (total: IgM and IgG)</td>
<td>VM1</td>
<td></td>
</tr>
<tr>
<td>Anti-HAV (IgG)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBc (total: IgM and IgG)</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBs</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBs, quantitative</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HCV</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-1</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-1/2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-2</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>HBsAg</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

### Additional Information
- Do not use program VM1 with rapid anti-HCV, anti-HIV-1, or anti-HIV-1/2 kits. See page 243 for programs appropriate for rapid methods.
- Anti-HIV-1/2, HIV-1 p24 antigen combination assay users should enroll in the VM6 program. VM1 is not appropriate for this assay.

## Viral Markers—Series 2  VM2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HBe</td>
<td>VM2</td>
<td></td>
</tr>
<tr>
<td>HBeAg</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

## Viral Markers—Series 3  VM3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-CMV</td>
<td>VM3</td>
<td></td>
</tr>
<tr>
<td>Anti-HTLV-I/II</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HIV-1 p24 antigen</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- **Viral Markers—Series 1 VM1**
  - Five 3.5-mL plasma specimens
  - Three shipments per year

- **Viral Markers—Series 2 VM2**
  - Five 3.5-mL plasma specimens
  - Three shipments per year

- **Viral Markers—Series 3 VM3**
  - Three 3.5-mL plasma specimens
  - Two shipments per year
### Viral Markers—Series 4 VM4

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti- <em>Trypanosoma cruzi</em> (Chagas disease)</td>
<td>VM4</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Program Information
- Two 1.0-mL plasma specimens
- Two shipments per year

### Viral Markers—Series 5 VM5

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HAV (IgM)</td>
<td>VM5</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HBc (IgM)</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

#### Program Information
- Five 1.5-mL plasma specimens
- Three shipments per year

### Viral Markers—Series 6 VM6/VM6X

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HIV-1/2</td>
<td>VM6 VM6X</td>
<td>5</td>
</tr>
<tr>
<td>HIV-1 p24 antigen</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

#### Program Information
- VM6 - Five 0.5-mL plasma specimens
- VM6X - All program VM6 specimens in duplicate
- Three shipments per year

### Anti-HIV 1/2 AHIV, AHIVW

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HIV-1, Anti-HIV-2, Anti-HIV-1/2</td>
<td>AHIV AHIVW</td>
<td>5</td>
</tr>
<tr>
<td>Anti-HIV-1, Anti-HIV-1/2, waived methods only</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

#### Program Information
- AHIV - Five 0.5-mL plasma specimens; three shipments per year
- AHIVW - Two 0.5-mL plasma specimens; two shipments per year

### Anti-HCV, Rapid Methods, Waived RHCVW

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-HCV, waived methods only</td>
<td>RHCVW</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Program Information
- Three 0.5-mL plasma specimens
- Two shipments per year
### Nucleic Acid Testing — NAT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babesia</td>
<td>NAT</td>
<td>1</td>
</tr>
<tr>
<td>HBV</td>
<td>NAT</td>
<td>5</td>
</tr>
<tr>
<td>HCV</td>
<td>NAT</td>
<td>5</td>
</tr>
<tr>
<td>HIV</td>
<td>NAT</td>
<td>5</td>
</tr>
<tr>
<td>West Nile virus</td>
<td>NAT</td>
<td>5</td>
</tr>
</tbody>
</table>

### Program Information
- Five 6.0-mL plasma specimens
- One 1.0-mL whole blood specimen
- Designed for blood donor centers performing nucleic acid testing on donor units
- Compatible with HIV, HCV, and HBV multiplex assays
- Three shipments per year

### Vector-Borne Disease — Molecular — VBDM

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zika virus</td>
<td>VBDM</td>
<td>3</td>
</tr>
</tbody>
</table>

### Program Information
- Three 1.5-mL liquid specimens
- Two shipments per year

---

### Arthropod Benchtop Reference Guide

- Numerous identifications of ectoparasites commonly encountered in the clinical laboratory
- Detailed descriptions of the most significant morphologic elements, ecology, and clinical significance
- Eight tabbed sections for easy reference
  - Introduction
  - Bed Bugs
  - Ticks
  - Kissing Bugs
  - Mites
  - Fleas
  - Lice
  - Myiasis-causing Fly Larvae
- A durable and water-resistant format to withstand years of benchtop use — 6½” x 7”

**Add it to your order.**

**Or, view sample pages and purchase online:**
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

*Item number: ABRG*
Spiral bound; 82 pages; 65+ images and tables; 2016
## Parentage Testing

### Parentage/Relationship Test—Filter Paper  PARF

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA testing (PCR)</td>
<td>PARF</td>
<td>4</td>
</tr>
<tr>
<td>Calculation challenge (dry challenge)</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Program Information
- **DNA testing (PCR)** - Four samples per mailing; Two shipments of mother and child specimens on blood-stained filter paper with buccal swabs for two potential fathers; one shipment with all four specimens on blood-stained filter paper
- Reporting for short tandem repeats (STRs), X-STRs, Y-STRs, as well as the conclusions provided
- Three shipments per year
Make critical transfusion decisions with confidence.

*Transfusion Medicine in the Hot Seat* is a valuable educational resource for pathology trainees and pathologists practicing transfusion medicine. The text presents a total of 26 realistic transfusion scenarios divided into three sections:

- Antibodies
- Blood Components
- Complications

The short-case format makes the information easily accessible and can serve as the basis for a transfusion medicine curriculum in clinical pathology.

**Add Transfusion Medicine in the Hot Seat (PUB224) to your order.**

Or, view sample pages and purchase online:

- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Item number: PUB224
Softcover; 123 pages; 2016
Keep your laboratory current with insights from a panel of experts who monitor the latest trends in histocompatibility testing.

- Benefit from the CAP’s culture of continuous improvement, which provides direction for updating our proficiency testing programs.
- Ensure your regulatory requirements are covered by continuing to participate in our programs.

Discontinued Programs

HLA Crossmatching, Antibody Screen, and Antibody Identification (Class I/Class II) (MXB only)
**Histocompatibility**

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### HLA Crossmatching, Antibody Screen, and Antibody Identification (Class I/Class II)  MXC, MXE

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossmatching (Class I/Class II)</td>
<td>MXC MXE</td>
<td>8</td>
</tr>
<tr>
<td>Antibody screen (Class I/Class II)</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Antibody identification (Class I/Class II)</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

### Class I & II HLA Molecular Typing  DML

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular HLA-A, -B, and -C typing (Class I)</td>
<td>DML</td>
<td>5</td>
</tr>
<tr>
<td>Molecular HLA-DR, -DQ, and -DP typing (Class II)</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

### HLA-B27 Typing  B27

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLA-B27 typing</td>
<td>B27</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**
- **MXC** - Four 0.4-mL plasma specimens; two (approximately 6-7 x 10^6 cells) purified blood lymphocyte specimens
- **MXE** - Four 0.25-mL plasma specimens; must be ordered in conjunction with program MXC
- Three shipments per year

- **DML**
  - Five 2.0-mL whole blood specimens in CPD or CPD-A
  - Serologic equivalents reporting available
  - Two shipments per year

- **B27**
  - Five 2.0-mL whole blood specimens in CPD or CPD-A
  - Two shipments per year
<table>
<thead>
<tr>
<th>Antibody Titer—ABT, ABT1, ABT2, ABT3</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>ABT</td>
<td>ABT1</td>
</tr>
<tr>
<td>Anti-A titer</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anti-B titer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-D titer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- **ABT** - One 2.0-mL specimen for anti-A titer with one corresponding titer cell (3%–4% red blood cell suspension); one 2.0-mL specimen for anti-D titer with one corresponding titer cell (3%–4% red blood cell suspension)
- **ABT1** - One 2.0-mL specimen for anti-A titer with one corresponding titer cell (3%–4% red blood cell suspension)
- **ABT2** - One 2.0-mL specimen for anti-D titer with one corresponding titer cell (3%–4% red blood cell suspension)
- **ABT3** - One 2.0-mL specimen for anti-B titer with one corresponding titer cell (3%–4% red blood cell suspension)
- Two shipments per year

<table>
<thead>
<tr>
<th>Antibody Titer—Automated AABT, AABT1, AABT2, AABT3</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>AABT</td>
<td>AABT1</td>
</tr>
<tr>
<td>Anti-A titer</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anti-B titer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-D titer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Program Information**
- **AABT** - One 2.0-mL specimen for anti-A titer; one 2.0-mL specimen for anti-D titer
- **AABT1** - One 2.0-mL specimen for anti-A titer
- **AABT2** - One 2.0-mL specimen for anti-D titer
- **AABT3** - One 2.0-mL specimen for anti-B titer
- Two shipments per year
**Transfusion Medicine: A Compendium of Educational Cases**

Based on more than 10 years of educational material used in proficiency testing from the CAP Transfusion, Apheresis, and Cellular Therapy Committee, this newest book on transfusion medicine consists of 20 cases with multiple-choice questions and answers. Topics covered reflect clinical cases as well as hot topics in transfusion medicine leveraging the clinical experience of 19 highly regarded transfusion medicine experts, all leaders in the field.

Contents include:

- Blood components including plasma, platelets, and red blood cells
- Neonatal/peripartum transfusion medicine
- Special situations such as hemolysis and transplantation
- Regulatory issues

**Add Transfusion Medicine: A Compendium of Educational Cases (PUB228) to your order.**

**Or, view sample pages and purchase online:**

- printed books at estore.cap.org

---

**Monitoring Engraftment ME**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stem cell monitoring engraftment</td>
<td>ME</td>
<td>5</td>
</tr>
</tbody>
</table>

**Program Information**

- Seven 0.5-mL whole blood specimens
- Designed for laboratories supporting stem cell transplant and laboratories monitoring chimerism after organ transplantation
- Two shipments per year
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLA-A*31:01</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-A*29:01</td>
<td>DADR2</td>
<td>3</td>
</tr>
<tr>
<td>HLA-A*29:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQA1*04:01</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQA1*05:01</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQB1*03:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*03:01</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*03:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*04:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*04:03</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*04:06</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*08:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*08:04</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*14:04</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*14:05</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*14:08</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*15:01</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DRB1*15:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQA1*02</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQA1*03</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQA1*05</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQB1*02:01</td>
<td>DADR1</td>
<td>3</td>
</tr>
<tr>
<td>HLA-DQB1*02:02</td>
<td>DADR1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

These programs will challenge the laboratory to accurately identify the presence or absence of alleles associated with a variety of disease states (listed below) and/or the adverse reactions to specific drugs.

**DADR1**
- Carbamazepine-induced Stevens-Johnson syndrome
- Allopurinol Stevens-Johnson syndrome
- Hypersensitivity to abacavir
- Dapsone hypersensitivity

**DADR2**
- Celiac disease
- Narcolepsy
- Pemphigus vulgaris
- Psoriasis
- Antiglomerular basement membrane disease
- Birdshot retinochoroidopathy
- Idiopathic myopathy

**Program Information**
- DADR1, DADR2 - Three 0.1-mL specimens, each containing 200 µg/mL of human DNA in media
- Two shipments per year
During your inspection, if it’s not documented, it’s not compliant

CLIA and your accreditor’s standards haven’t changed: you need to have complete and accurate records at inspection or receive a deficiency. The CAP’s updated Competency Assessment Hub offers tools to satisfy regulatory record-keeping requirements and meet your staff’s CE needs.

2023 Competency Assessment Hub subscription includes:

- Flexible plans that accommodate whole healthcare networks or individual laboratories
- 67 courses in 11 laboratory disciplines
- Tools and resources to build assessment and training records
- Reporting tools to ensure your staff meet deadlines

Improve your laboratory’s readiness for inspection. Add the appropriate Competency Assessment Hub subscription to your order.
The CAP broadens its network of laboratory experts through its collaborations.

Among the organizations with which we partner:

- American Association for Clinical Chemistry (AACC)
- American College of Medical Genetics and Genomics (ACMG)
- Association for Molecular Pathology (AMP)
- National Society for Histotechnology (NSH)

Genetics and Molecular Pathology

Cytogenetics .......................................................................................................................... 254
Biochemical and Molecular Genetics ....................................................................................... 257
Next-Generation Sequencing ............................................................................................... 266
Molecular Oncology—Solid Tumors ..................................................................................... 274
Molecular Oncology—Hematologic ....................................................................................... 278

New Programs NEW

CAP/ACMG FISH for Paraffin-Embedded Tissue ALK Rearrangement in Lung (CYALK) ........ 255
Next-Generation Sequencing Solid Tumor Bioinformatics Hybrid (NGSB4) ......................... 268
Next-Generation Sequencing Hematologic Malignancies Bioinformatics Hybrid (NGSB5) ...... 270

Program Changes

Tumor Mutational Burden (TMB) Number of challenges per shipment .................................. 273

Analyte Additions NEW

Pharmacogenetics (PGX1) ....................................................................................................... 264

Discontinued Programs

Variant Interpretation Only Program (VIP/VIP1)
Next-Generation Sequencing Bioinformatics Somatic Validated Materials (NGSBV)
# Cytogenetics

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

## CAP/ACMG Cytogenetics  CY, CYBK

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromosome abnormality</td>
<td>CY CYBK</td>
<td>6</td>
</tr>
<tr>
<td>Karyotype nomenclature</td>
<td>CY CYBK</td>
<td>6</td>
</tr>
<tr>
<td>Educational challenge</td>
<td>CY CYBK</td>
<td>1 per year</td>
</tr>
</tbody>
</table>

Each challenge, with the exception of the educational challenge, includes a case history and images of metaphase cells that are representative of each case. Each mailing will include three constitutional and three neoplastic challenges.

## CAP/ACMG Fluorescence In Situ Hybridization  CYF, CYI

<table>
<thead>
<tr>
<th>Disease/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constitutional and Hematologic</td>
<td>CYF CYI</td>
<td></td>
</tr>
<tr>
<td>Disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FISH for constitutional disorder -</td>
<td>CYF CYI</td>
<td></td>
</tr>
<tr>
<td>slides</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>FISH for constitutional disorder -</td>
<td>CYF CYI</td>
<td></td>
</tr>
<tr>
<td>image/dry challenge</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>FISH for hematologic disorder -</td>
<td>CYF CYI</td>
<td></td>
</tr>
<tr>
<td>slides</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>FISH for hematologic disorder -</td>
<td>CYF CYI</td>
<td></td>
</tr>
<tr>
<td>image/dry challenge</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Urothelial Carcinoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FISH for urothelial carcinoma</td>
<td>CYF CYI</td>
<td>2</td>
</tr>
</tbody>
</table>

## Additional Information

- **CYF 2023-A:**
  - Constitutional disorder - Sex chromosome enumeration (two slides)
  - Hematologic disorder - MYC (two slides)
- **CYF 2023-B:**
  - Constitutional disorder - Prader-Willi syndrome/Angelman syndrome critical region (two slides)
  - Hematologic disorder - RUNX1::RUNX1T1 (two slides)
- **CYF** is prepared from cell suspension samples. For FISH in paraffin-embedded tissues, see page 255.
- These programs are only for laboratories that perform both hybridization and interpretation under the same CLIA number.

---

**Program Information**

- **CY** - Online images of metaphase cells delivered two times a year; your CAP shipping contact will be notified via email when the activity is available
- **CYBK** - Prints of metaphase cells; two shipments per year

**Program Information**

- **CYF** - Four slides and four image/dry challenges
- **CYI** - Two 250-µL cell samples suspended in ethanol from two different specimens; participants use FISH to detect chromosome abnormalities
- Two shipments per year
**CAP/ACMG Fluorescence In Situ Hybridization for Paraffin-Embedded Tissue**

**CYH, CYJ, CYK, CYL, CYALK**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CYH</td>
<td>CYJ</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ERBB2$ (HER2) amplification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpretive challenges for $ERBB2$ (HER2) amplification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain/Glioma Tissue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1p/19q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid Tumor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$DDIT3$ rearrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$SS18$ rearrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational image challenge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lymphoma Tissue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$MYC$ rearrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$BCL6$ rearrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung Cancer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ALK$ rearrangement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$ALK$ rearrangement image challenge</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional Information**
- All CYJ, CYK, and CYL specimens will be 4.0-micron tissue sections mounted on positively charged glass slides.
- These programs are for laboratories that perform both hybridization and interpretation under the same CLIA number. For interpretation only $ERBB2$ (HER2) FISH for breast cancer, see page 296.

**Program Information**
- CYH - Two unstained, five-core tissue microarray slides equivalent to 10 paraffin-embedded breast tissue specimens; two H&E stained tissue microarray slides are also provided
- CYJ - Four unstained slides and one H&E stained slide
- CYK - Two unstained slides and one H&E stained slide; one educational image challenge querying different probes/genes is included with each mailing
- CYL - Two unstained slides and one H&E stained slide
- CYALK - Two unstained slides and one H&E stained slide is provided for the A mailing; the B mailing will include an $ALK$ image challenge
- Two shipments per year
## CAP/ACMG Constitutional Microarray  CYCGH

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenomic microarray analysis for constitutional abnormalities</td>
<td>CYCGH</td>
<td>2</td>
</tr>
<tr>
<td>Educational challenge for constitutional abnormalities</td>
<td>CYCGH</td>
<td>1</td>
</tr>
</tbody>
</table>

### Additional Information
- Participants will identify and characterize gains or losses and the cytogenetic location of abnormalities detected.
- This program is not appropriate for low resolution arrays that are designed to detect only aneuploidy.

## CAP/ACMG Oncology Microarray  CYCMA

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenomic microarray analysis for oncologic abnormalities</td>
<td>CYCMA</td>
<td>1</td>
</tr>
<tr>
<td>Educational challenge for oncologic abnormalities</td>
<td>CYCMA</td>
<td>1</td>
</tr>
</tbody>
</table>

Participants will identify and characterize gains or losses and the cytogenetic location of abnormalities detected.
### Biochemical and Molecular Genetics

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>CAP/ACMG Biochemical Genetics</th>
<th>BGL, BGL1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyte/Procedure</td>
<td>Program Code</td>
</tr>
<tr>
<td></td>
<td>BGL</td>
</tr>
<tr>
<td>Acylcarnitines, qualitative and quantitative</td>
<td>1</td>
</tr>
<tr>
<td>Amino acids, qualitative and quantitative</td>
<td>1</td>
</tr>
<tr>
<td>Carnitine, qualitative and quantitative</td>
<td>3</td>
</tr>
<tr>
<td>Glycosaminoglycans (mucopolysaccharides), qualitative and quantitative</td>
<td>1</td>
</tr>
<tr>
<td>Organic acids, qualitative and quantitative</td>
<td>1</td>
</tr>
<tr>
<td>Educational challenge</td>
<td>1</td>
</tr>
</tbody>
</table>

### Program Information

- **BGL** -
  - Acylcarnitines: One 0.1-mL plasma specimen
  - Amino acids: One 1.0-mL plasma or 2.0-mL urine specimen
  - Glycosaminoglycans (mucopolysaccharides): One 2.0-mL urine specimen
  - Organic acids: One 7.5-mL urine specimen
  - Educational challenge: Will consist of any one of the BGL analytes

- **BGL1** - Three 0.3-mL serum specimens
- Two shipments per year

---

### Give the CAP’s complimentary Sample Exchange Registry service a try!

Sign up for this unique and complimentary service for those rare analytes for which proficiency testing is not yet available. This service now includes all clinical laboratory disciplines.

- The CAP connects laboratories performing testing for which no formal proficiency testing is available.
- There is no charge for this service.
- Participate at any time, no contract required.
- A minimum of three laboratories performing the same analyte test must participate before the CAP can facilitate the sample exchange.
- Each individual laboratory will receive its own results along with an anonymized summary report for all participants.

Visit cap.org and from the Laboratory Improvement tab, choose Proficiency Testing > Sample Exchange Registry.
### Biochemical and Molecular Genetics

#### CAP/ACMG Amino Acid Quantitation for Inherited Metabolic Disorders  BGL2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alanine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Alloisoalucine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Arginine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Aspartic acid</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Citrulline</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Cystine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Glutamic acid</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Glutamine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Glycine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Histidine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Homocystine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Hydroxyproline</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Isoleucine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Leucine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Lysine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Methionine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Ornithine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Phenylalanine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Proline</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Serine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Taurine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Threonine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Tryptophan</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Tyrosine</td>
<td>BGL2</td>
<td>3</td>
</tr>
<tr>
<td>Valine</td>
<td>BGL2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 1.0-mL liquid specimens
- Two shipments per year
### CAP/ACMG Alpha-1 Antitrypsin Genotyping  AAT

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-1 antitrypsin (SERPINA1) genotyping</td>
<td>AAT</td>
<td>3</td>
</tr>
</tbody>
</table>

This program will test for the M, S, and Z alleles.

### CAP/ACMG Apolipoprotein E Genotyping  APOE

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apolipoprotein E (APOE) genotyping</td>
<td>APOE</td>
<td>3</td>
</tr>
</tbody>
</table>

This program is designed for laboratories utilizing APOE testing for hyperlipoproteinemia type III and Alzheimer diseases and will test for APOE e2, APOE e3, and APOE e4.

### CAP/ACMG BRCA1/2 Sequencing  BRCA

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRCA1/2 DNA sequencing and variant interpretation</td>
<td>BRCA</td>
<td>3</td>
</tr>
<tr>
<td>BRCA1/2 duplication/deletion analysis</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Test your skill at reporting and interpreting DNA sequence variants for BRCA1/2 using standard nomenclature.
- Receive a summary and discussion of responses, including comments on the variant nomenclature and known or expected outcomes from identified variants.
- Primers are not included; laboratories are expected to utilize the primers used in routine clinical testing.
**CAP/ACMG Cardiomyopathy Sequencing Panel  CMSP**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiomyopathy sequencing panel</td>
<td>CMSP</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- This proficiency challenge is for laboratories performing gene panels, exome sequencing, and whole genome sequencing to detect germline variants associated with inherited forms of cardiomyopathy.
- Participants will be asked to identify variants in the following genes: ACTC1, MYBPC3, MYH7, MYL2, MYL3, TNNI3, TNNT2, and TPM1.

**CAP/ACMG Hemoglobinopathies Genotyping  HGM**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-thalasemia</td>
<td>HGM</td>
<td>3</td>
</tr>
<tr>
<td>Beta-thalasemia</td>
<td>HGM</td>
<td>3</td>
</tr>
<tr>
<td>Hemoglobin S/C</td>
<td>HGM</td>
<td>3</td>
</tr>
</tbody>
</table>

**CAP/ACMG Inherited Cancer Sequencing Panel  ICSP**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inherited cancer sequencing panel</td>
<td>ICSP</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 80.0-µL purified extracted DNA specimens (50 ng/µL)
- Two shipments per year

**Program Information**
- Three 50.0-µg extracted DNA specimens
- Two shipments per year

**Program Information**
- Three 80.0-µL purified extracted DNA specimens (50 ng/µL)
- Two shipments per year

**Additional Information**
- This proficiency challenge is for laboratories performing gene panels, exome sequencing, and whole genome sequencing to detect germline variants associated with inherited forms of cancer.
- Participants will be asked to identify variants in the following genes: APC, ATM, BRCA1, BRCA2, CDKN2A, CHEK2, MLH1, MSH2, MSH6, PALB2, and PMS2.
### CAP/ACMG Molecular Genetics Series
#### MGL1, MGL2, MGL3, MGL4, MGL5

<table>
<thead>
<tr>
<th>Disease/Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloom syndrome (BLM gene)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BRCA1/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canavan (ASPA gene)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connexin 26 (GJB2 gene)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cystic fibrosis (CFTR gene)</td>
<td>![ ]</td>
<td>3</td>
</tr>
<tr>
<td>DMD/Becker (DMD gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Factor V Leiden (F5 gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Familial dysautonomia (ELP1 gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Fanconi anemia complementation group C (FANCC gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Fragile X (FMR1 gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Friedreich ataxia (FXN gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Gaucher (GBA gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Glycogen storage disease type Ia (G6PC gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Hemochromatosis (HFE gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Hemoglobin S/C</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Huntington (HTT gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Methylenetetrahydrofolate reductase (MTHFR gene) c.665C&gt;T (677C&gt;T) and c.1286A&gt;C (1298A&gt;C)</td>
<td>![ ]</td>
<td>3</td>
</tr>
<tr>
<td>Mucolipidosis IV (MCOLN1 gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Multiple endocrine neoplasia type 2 (RET gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Myotonic dystrophy (DMPK gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Niemann-Pick type A/B (SMPD1 gene)</td>
<td>![ ]</td>
<td></td>
</tr>
<tr>
<td>Plasminogen activator inhibitor (PAI)-1 (SERPINE1 gene)</td>
<td>![ ]</td>
<td>3</td>
</tr>
</tbody>
</table>

Continued on the next page

---

### Program Information

- MGL1, MGL2, MGL3, MGL4 - Three 50.0-µg extracted DNA specimens per disease/gene
- MGL5 - Two 50.0-µg extracted DNA specimens
- Two shipments per year

---

### Additional Information

- The BRCA1/2 program (module MGL3) is designed for laboratories testing for the three Ashkenazi Jewish founder mutations.
- The cystic fibrosis programs (modules MGL2 and MGL5) are designed for laboratories that are testing for the minimum mutation panel for population-based carrier screening (ie, the ACMG-23 mutation panel) from the ACMG Technical Standards and Guidelines for CFTR Mutation Testing, expanded panels, PolyT variant analysis, and/or full gene sequencing.
- Module MGL4 is designed for laboratories testing for diseases/disorders related to Ashkenazi Jewish ancestry.
- The Prader-Willi/Angelman syndrome program is designed for laboratories using methylation techniques for analysis.
## CAP/ACMG Molecular Genetics Series

### MGL1, MGL2, MGL3, MGL4, MGL5 continued

<table>
<thead>
<tr>
<th>Disease/Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prader-Willi/Angelman syndrome</td>
<td>MGL1 MGL2</td>
<td>3</td>
</tr>
<tr>
<td>Prothrombin (F2 gene)</td>
<td>MGL3 MGL4</td>
<td>3</td>
</tr>
<tr>
<td>RhD</td>
<td>MGL5</td>
<td>3</td>
</tr>
<tr>
<td>Spinal muscular atrophy (SMN1 and SMN2 genes)</td>
<td>MGL1</td>
<td>3</td>
</tr>
<tr>
<td>Spinocerebellar ataxia (ATXN1, ATXN2, ATXN3, CACNA1A, and ATXN7 genes)</td>
<td>MGL2</td>
<td>3</td>
</tr>
<tr>
<td>Tay-Sachs (HEXA gene)</td>
<td>MGL3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Additional Information
- The BRCA1/2 program (module MGL3) is designed for laboratories testing for the three Ashkenazi Jewish founder mutations.
- The cystic fibrosis programs (modules MGL2 and MGL5) are designed for laboratories that are testing for the minimum mutation panel for population-based carrier screening (ie, the ACMG-23 mutation panel) from the ACMG Technical Standards and Guidelines for CFTR Mutation Testing, expanded panels, PolyT variant analysis, and/or full gene sequencing.
- Module MGL4 is designed for laboratories testing for diseases/disorders related to Ashkenazi Jewish ancestry.
- The Prader-Willi/Angelman syndrome program is designed for laboratories using methylation techniques for analysis.
- The Spinal Muscular Atrophy program includes SMN1 and SMN2 gene analysis and copy number analysis.

### CAP/ACMG Inherited Metabolic Diseases IMD1, IMD2, IMD3

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitochondrial DNA deletion syndromes</td>
<td>IMD1 IMD2</td>
<td>3</td>
</tr>
<tr>
<td>MCAD</td>
<td>IMD3</td>
<td>3</td>
</tr>
<tr>
<td>Mitochondrial cytopathies*</td>
<td>IMD3</td>
<td>3</td>
</tr>
</tbody>
</table>

*Includes disorders/diseases such as Leber hereditary optic neuropathy and myoclonus epilepsy with ragged red fibers (MERRF).
**CAP/ACMG Molecular Genetics Sequencing**

**SEC, SEC1**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA sequencing interpretation challenge</td>
<td>SEC</td>
<td>3</td>
</tr>
<tr>
<td>DNA sequencing</td>
<td>SEC1</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- Test your skill at interpreting and reporting DNA sequence variants for inherited diseases using standard nomenclature.
- Receive a summary and discussion of responses, including comments on nomenclature, known or expected outcomes from identified variants, and teaching points about genes/disorders represented.

**Program Information**
- SEC - DNA sequence electropherogram files with a range of variants, suitable for base-calling and analysis using a range of commercial or public domain software programs; also includes nomenclature/variant references. Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
- SEC1 - Three 30.0-µg extracted DNA specimens; forward and reverse lyophilized primers are provided. Two shipments per year

---

**World-class recognition deserves to be displayed.**

![CAP Accredited logo](CAP_Accredited_Logo.png)

Let your peers, patients, and the public know you’ve earned the CAP accreditation certification mark.

Proudly display the mark. It distinguishes you as one of almost 8,000 laboratories worldwide that have attained CAP accreditation, the most respected and recognized laboratory accreditation in the world.
### Pharmacogenetics PGX, PGX1, PGX3

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PGX</td>
<td>PGX1</td>
</tr>
<tr>
<td>CYP2C19</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CYP2C9</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CYP2B6</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CYP2D6</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CYP3A4</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CYP3A5</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CYP4F2</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>SLC01B1 (rs4149056)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>VKORC1</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>IL28B (rs12979860)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>COMT (rs4680)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>G6PD (NEW)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>OPRM1 (rs1799971, c.118A&gt;G)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>DPYD</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NUDT15</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>TPMT</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>UGT1A1</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**UGT1A1** (PGX3 program) tests the laboratory's ability to detect variants in the TATA repeat sequence in the **UGT1A1** promotor (eg, **UGT1A1***28 with seven TA repeats). The ability to detect variants in other regions of the **UGT1A1** gene is not part of this program.

### CAP/ACMG Rett Syndrome (MECP2) RETT

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rett (MECP2) genotyping</td>
<td>RETT</td>
<td>3</td>
</tr>
<tr>
<td>Rett (MECP2) duplication/deletion analysis</td>
<td>✓</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- PGX, PGX1, PGX3 - Three 25.0-µg extracted DNA specimens
- Includes allele detection (genotyping) and/or interpretive challenges
- Two shipments per year

**Program Information**
- Three 10.0-µg extracted DNA specimens
- Two shipments per year
CAP/ACMG Thrombophilia Mutations  TPM

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor II (F2 gene, Prothrombin)</td>
<td>TPM</td>
<td>3</td>
</tr>
<tr>
<td>Factor V Leiden (F5 gene)</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

This program is designed for the Cepheid GeneXpert factor II and factor V assays. DNA extraction for other assays/methods is NOT recommended.

Red Blood Cell Antigen Genotyping  RAG

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBC blood group genotyping for phenotype prediction</td>
<td>RAG</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 2.0-mL whole blood specimens
- Two shipments per year

Noninvasive Prenatal Testing  NIPT

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell-free DNA screening for fetal aneuploidy</td>
<td>NIPT</td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three liquid specimens
- Two shipments per year

Noninvasive prenatal testing is an exercise and is not considered proficiency testing. This exercise may be used to meet the requirements for alternative assessment.
Next-Generation Sequencing

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

All laboratories subject to US Clinical Laboratory Improvement Amendments (CLIA) Regulations: Proficiency testing (PT) challenges must NOT be referred to another laboratory for any portion of NGS testing, even if this is how patient testing is routinely performed. For PT challenges, any referral is strictly prohibited by CMS.

### Next-Generation Sequencing—Germline NGS

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next-generation sequencing</td>
<td>NGS</td>
<td>2</td>
</tr>
</tbody>
</table>

Labs will have the ability to analyze up to 200 preselected chromosomal intervals in hg19 (GRCh37) and hg38 (GRCh38) coordinates within various genes; for a full list of genes in this program, please go to cap.org. Under the Laboratory Improvement tab, click on Catalog and Ordering Information. The list is located under the PT Order Supplements header.

### Next-Generation Sequencing—Solid Tumor NGSST

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next-generation sequencing</td>
<td>NGSST</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- This is a methods-based proficiency challenge for laboratories performing targeted next-generation sequencing of cancer genes or mutation hotspots in solid tumors.
- This program includes variants present with a variant allele fraction (VAF) potentially as low as 5%.

### Next-Generation Sequencing—Hematologic Malignancies NGSHM

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next-generation sequencing</td>
<td>NGSHM</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- This is a methods-based proficiency challenge for laboratories performing targeted next-generation sequencing of genes or mutation hotspots in hematologic malignancies.
- This program includes variants present with a variant allele fraction (VAF) potentially as low as 5%.
Next-Generation Sequencing

Solid Tumor Bioinformatics  NGSB1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illumina TruSeq Amplicon Cancer Panel</td>
<td>NGSB1</td>
<td>1</td>
</tr>
<tr>
<td>Illumina TruSight Tumor 15 Panel</td>
<td>NGSB1</td>
<td>1</td>
</tr>
<tr>
<td>Illumina TruSight Tumor 170 Panel</td>
<td>NGSB1</td>
<td>1</td>
</tr>
<tr>
<td>Illumina TruSight Oncology 500 Panel</td>
<td>NGSB1</td>
<td>1</td>
</tr>
<tr>
<td>Thermo Fisher Ion AmplicSeq Cancer Hotspot Panel v2</td>
<td>NGSB1</td>
<td>1</td>
</tr>
<tr>
<td>Thermo Fisher Oncomine Comprehensive Assay v3</td>
<td>NGSB1</td>
<td>1</td>
</tr>
<tr>
<td>Thermo Fisher Oncomine Focus Cancer Panel</td>
<td>NGSB1</td>
<td>1</td>
</tr>
</tbody>
</table>

Additional Information

- This in silico bioinformatics program is designed to complement and augment somatic variant wet bench NGS proficiency testing programs by testing a greater diversity of variants at a greater range of variant allele fractions.
- The BAM and/or FASTQ files are platform-specific and may not be compatible with other instruments/software.
- This program includes variants present with a variant allele fraction (VAF) potentially as low as 5%.
- For platform agnostic solid tumor bioinformatic proficiency testing challenges, refer to the NGSB4 program, page 268.

Program Information

- Sequencing files containing somatic variants to be downloaded and incorporated into your laboratory bioinformatics pipeline for analysis and reporting; file sizes range from 100MB to 1GB
- BAM and FASTQ file formats
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
Next-Generation Sequencing Solid Tumor Bioinformatics Hybrid  NGSB4

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>In silico mutagenized sequencing file(s) containing somatic variants of relevance in solid tumors - platform agnostic</td>
<td>NGSB4</td>
<td>1</td>
</tr>
</tbody>
</table>

This is a platform agnostic hybrid in silico proficiency testing and validated materials program for laboratories performing targeted NGS of cancer genes or mutational hotspots in solid tumors.

For panel-specific solid tumor bioinformatic proficiency testing challenges, refer to the NGSB1 program, page 267.

Minimum Requirements:
- Laboratories must provide a gene panel sequencing data file (FASTQ or unaligned BAM) that has been generated using their current clinical sequencing protocols from one of the following sources: A specimen from the NGS - Germline program (see page 266) or from one of the following NIST Reference Material cell lines: RM 8398 (NA12878), RM 8391, RM 8392, or RM 8393. FASTQs or unaligned BAMs must be submitted along with a BED file describing the regions targeted and interrogated by your laboratory. Specimens from the NGSST and NGSHM programs or additional Coriell/NIST Reference Material cell lines cannot be used for this program.
- Laboratories can transfer and download files from most modern browsers/operating systems. Due to the extremely large file sizes, 40 Mbps transfer speed or higher is needed to ensure successful transfer of your laboratory’s sequencing files to the CAP. For the most up-to-date information on system requirements, click Browser and Operating System Requirements located at the bottom of the cap.org homepage.

Additional Information, Proficiency Testing Program:
- Laboratories will be asked to identify somatic single nucleotide variants and small (1-15bp) insertions, deletions, duplications, and deletions-insertions (delins) in a subset of solid tumor mutational hotspots/genes with VAF potentially as low as 5%. Laboratories will be required to submit results of the variants identified.

Additional Information, Validated Materials:
- The sequencing file will contain up to 75 custom somatic variants that are tailored to the specific assay submitted (depending on the size of the panel provided) at VAF from 3% to 99% (higher allele fractions to mimic loss of heterozygosity or homozygosity) and will include:
  - Single nucleotide variants
  - Insertions, deletions, delins, and/or duplications ranging from 1-100bp (1-15bp, 16-50bp, 51-100bp)
  - For laboratories doing microsatellite instability, microsatellite instability at mono nucleotide tracts in the submitted capture design will be included.

All variants will be modeled based on actual somatic mutations from the COSMIC and/or cBioPortal databases. This portion of the program is not traditional proficiency testing and no results will be returned to the CAP; information regarding the variants introduced will be sent along with the mutagenized file.
Next-Generation Sequencing
Hematologic Malignancies Bioinformatics NGSB3

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illumina TruSight Myeloid Sequencing Panel</td>
<td>NGSB3</td>
<td>1</td>
</tr>
<tr>
<td>Thermo Fisher Oncomine Myeloid Assay</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Additional Information

- This *in silico* bioinformatics program is designed to complement and augment somatic variant wet bench NGS proficiency testing programs by testing a greater diversity of variants at a greater range of variant allele fractions.
- The BAM and/or FASTQ files are platform-specific and may not be compatible with other instruments/software.
- This program includes variants present with a variant allele fraction (VAF) potentially as low as 5%.
- For platform agnostic hematologic malignancies bioinformatic proficiency testing challenges, refer to the NGSB5 program, page 270.

Program Information

- Sequencing files containing somatic variants to be downloaded and incorporated into your laboratory bioinformatics pipeline for analysis and reporting; file sizes range from 100MB to 1GB
- BAM and FASTQ file formats
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
Next-Generation Sequencing

### Next-Generation Sequencing Hematologic Malignancies Bioinformatics Hybrid NGSB5

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>In silico mutagenized sequencing file(s) containing somatic variants of relevance in hematologic malignancies - platform agnostic</td>
<td>NGSB5</td>
<td>1</td>
</tr>
</tbody>
</table>

This is a platform agnostic hybrid in silico proficiency testing and validated materials program for laboratories performing targeted NGS of cancer genes or mutational hotspots in hematologic malignancies.

For panel-specific hematologic malignancies bioinformatic proficiency testing challenges, refer to the NGSB3 program, page 269.

### Minimum Requirements:

- Laboratories must provide a gene panel sequencing data file (FASTQ or unaligned BAM) that has been generated using their current clinical sequencing protocols from one of the following sources: a specimen from the NGS - Germline program (see page 266) or from one of the following NIST Reference Material cell lines: RM 8398 (NA12878), RM 8391, RM 8392, or RM 8393. FASTQs or unaligned BAMs must be submitted along with a BED file describing the regions targeted and interrogated by your laboratory. Specimens from the NGSST and NGSHM programs or additional Coriell/NIST Reference Material cell lines cannot be used for this program.
- Laboratories can transfer and download files from most modern browsers/operating systems. Due to the extremely large file sizes, 40 Mbps transfer speed or higher is needed to ensure successful transfer of your laboratory’s sequencing files to the CAP. For the most up-to-date information on system requirements, click Browser and Operating System Requirements located at the bottom of the cap.org homepage.
- **Additional Information, Proficiency Testing Program:**
  - Laboratories will be asked to identify somatic single nucleotide variants and small (1-15bp) insertions, deletions, duplications, and deletions-insertions (delins) in a subset of hematologic malignancies mutational hotspots genes with VAF potentially as low as 5%. Laboratories will be required to submit results of the variants identified.
- **Additional Information, Validated Materials:**
  - The sequencing file will contain up to 75 custom somatic variants that are tailored to the specific assay submitted (depending on the size of the panel provided) at VAF from 3% to 99% (higher allele fractions to mimic loss of heterozygosity or homozygosity) and will include:
    - Single nucleotide variants
    - Insertions, deletions, delins, and/or duplications ranging from 1-100bp (1-15bp, 16-50bp, 51-100bp)
  - All variants will be modeled based on actual somatic mutations from the COSMIC and/or cBioPortal databases. This portion of the program is not traditional proficiency testing and no results will be returned to the CAP; information regarding the variants introduced will be sent along with the mutagenized file.

### Program Information

- The proficiency testing portion of this program is designed to complement and augment NGS somatic variant wet bench proficiency testing programs by testing for a greater diversity of variants with a wide range of variant allele fractions (VAF) while the validated materials portion is designed to optimize bioinformatics pipelines, augment validations, and assist with pipeline verification after changes to NGS/bioinformatics processes.
- One panel sequencing data file (FASTQ or unaligned BAM), originating from your laboratory and provided to the CAP, for in silico mutagenesis.
- Sequencing files containing somatic variants to be downloaded and analyzed by your laboratory bioinformatics pipeline.
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available.
Next-Generation Sequencing Undiagnosed Disorders—Exome NGSE

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exome analysis for germline undiagnosed disorders</td>
<td>NGSE</td>
<td>1</td>
</tr>
</tbody>
</table>

Additional Information/Minimum Requirements

- This *in silico* based program will assess the ability of the laboratory to identify germline variants responsible for a provided clinic phenotype as is encountered in an undiagnosed disease scenario. In addition to analyzing the *in silico* mutagenized file to identify a genetic diagnosis for the provided clinical scenario, pathogenic or likely pathogenic ACMG secondary findings may also be reported.

- Laboratories must provide an exome sequencing data file (FASTQ or *unaligned* BAM) that has been generated using their current clinical sequencing protocols from one of the following sources: A specimen from the NGS - Germline program (see page 266) or from one of the NIST Reference Material cell lines: RM 8398 (NA12878), RM 8391, RM 8392, or RM 8393. Specimens from the NGSST and NGSHM programs or additional Coriell/NIST Reference Material cell lines cannot be used for this program.

- FASTQs or *unaligned* BAMs must be submitted along with a BED file describing the regions targeted and interrogated by your laboratory. Additionally, more than 90% of exons targeted and interrogated by your laboratory must have a minimum read coverage of 10X.

- Laboratories can transfer and download files from most modern browsers/operating systems. Due to the extremely large file sizes, 40 Mbps transfer speed or higher is needed to ensure successful transfer of your laboratory’s sequencing files to the CAP. For the most up-to-date information on system requirements, click **Browser and Operating System Requirements** located at the bottom of the cap.org homepage.

Program Information

- One exome sequencing data file, originating from your laboratory and provided to the CAP, for *in silico* mutagenesis. The mutagenized exome sequencing data file is to be downloaded and analyzed by your bioinformatics pipeline.

- The mutagenized exome sequencing file will be accompanied by a clinical history, relevant laboratory data, and results of ancillary studies, where appropriate.

- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available.
Next-Generation Sequencing

### Undiagnosed Disorders—Trio Analysis NGSET

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trio (parents and proband) exome analysis for germline undiagnosed disorders</td>
<td>NGSET</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information/Minimum Requirements**

- This *in silico* based program will assess the ability of the laboratory to identify germline variants responsible for a provided clinic phenotype in a proband as is encountered in an undiagnosed disease scenario using a trio approach (ie, laboratories will analyze the proband and parents in an effort to determine the diagnosis in the proband). In addition to analyzing the *in silico* mutagenized files to identify a genetic diagnosis for the provided clinical scenario, inheritance patterns as well as pathogenic or likely pathogenic ACMG secondary findings may also be reported.

- Laboratories must provide exome sequencing data files (FASTQs or *unaligned* BAMs) that have been generated using their current clinical sequencing protocols from one of the following Genome in a Bottle Consortium trio sources: The Ashkenazi Jewish trio (Coriell IDs GM24385, GM24149, and GM24143 or NIST RM8392) or the Han Chinese trio (Coriell IDs GM24631, GM24694, and GM24695). All exome files must be from the same trio (Ashkenazi Jewish or Han Chinese). Specimens from the NGS, NGSST, and NGSHM programs or additional Coriell/Genome in a Bottle Consortium sources cannot be used for this program.

- FASTQs or *unaligned* BAMs must be submitted along with a BED file describing the regions targeted and interrogated by your laboratory. Additionally, more than 90% of exons targeted and interrogated by your laboratory must have a minimum read coverage of 10X.

- Laboratories can transfer and download files from most modern browsers/operating systems. Due to the extremely large file sizes, 40 Mbps transfer speed or higher is needed to ensure successful transfer of your laboratory’s sequencing files to the CAP. For the most up-to-date information on system requirements, click **Browser and Operating System Requirements** located at the bottom of the cap.org homepage.

**Program Information**

- Three exome sequencing data files (one from each parent plus the proband), originating from your laboratory and provided to the CAP, for *in silico* mutagenesis. The mutagenized exome sequencing data files are to be downloaded and analyzed by your bioinformatics pipeline.

- The mutagenized exome sequencing files will be accompanied by a clinical history, relevant laboratory data, and results of ancillary studies, where appropriate.

- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available.
**Copy Number Variant—Solid Tumor**  
**CNVST**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy number variant—solid tumor</td>
<td>CNVST</td>
<td>1</td>
</tr>
</tbody>
</table>

**Additional Information**
- This program is designed for laboratories using next-generation sequencing for copy number analysis.
- Laboratories will be asked to identify copy number alterations in some of these genes: *CDKN2A, CDKN2B, EGFR, ERBB2, FGFR3, MET, MYC, MYCN, TP53*.
- Copy number alterations tested will include amplification, gain, copy neutral loss of heterozygosity, and deletion.

**Tumor Mutational Burden**  
**TMB**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumor mutational burden</td>
<td>TMB</td>
<td>2</td>
</tr>
</tbody>
</table>

**Additional Information**
- This program is intended for laboratories using next-generation sequencing to determine tumor mutational burden.
- This program is appropriate for laboratories using targeted panels and whole exome sequencing.
- Paired normal tissue is included.
- Specimens are 50% tumor.
Molecular Oncology—Solid Tumors

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Microsatellite Instability MSI

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsatellite instability testing (DNA amplification)</td>
<td>MSI</td>
<td>3</td>
</tr>
<tr>
<td>MLH1 promoter methylation analysis</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Laboratories performing DNA mismatch repair assessment by immunohistochemistry methods should see program MMR on page 299.

### In Situ Hybridization ISH, ISH2

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epstein-Barr virus (EBV)</td>
<td>ISH</td>
<td>4</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>ISH</td>
<td>4</td>
</tr>
<tr>
<td>Kappa/Lambda (IGK/IGL)</td>
<td>ISH</td>
<td>4</td>
</tr>
<tr>
<td>ERBB2 (HER2) gene amplification (brightfield)</td>
<td>ISH2</td>
<td>10</td>
</tr>
</tbody>
</table>

Laboratories performing FISH for interphase chromosomal targets in paraffin sections refer to the Cytogenetics programs, page 255.

Program ISH2 is only for laboratories that perform both hybridization and interpretation under the same CLIA number.

### DNA Extraction & Amplification FFPE MH05

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNA purification</td>
<td>MH05</td>
<td>1</td>
</tr>
</tbody>
</table>

Methods-based proficiency challenge to examine DNA purification from formalin-fixed, paraffin-embedded (FFPE) tissues. Laboratories will be able to purify DNA from FFPE sections and amplify control targets using laboratory-provided reagents.
### Neoplastic Cellularity NEO

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online assessment of percent neoplastic cellularity</td>
<td>NEO</td>
<td>10</td>
</tr>
</tbody>
</table>

### Sarcoma Fusion Gene SARC

<table>
<thead>
<tr>
<th>Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarcoma fusion gene*</td>
<td>SARC</td>
<td>3</td>
</tr>
</tbody>
</table>

*See fusion gene listing below.

Laboratories performing FISH for sarcoma translocation refer to the Cytogenetics programs, page 255.

### Program Information

- Ten regions of interest (ROIs) using online, whole slide images
- A method-based preanalytic program to assess competency for determining percent neoplastic cellularity
- Powered by DigitalScope® technology
- Individual reporting fields for up to five pathologists are available
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available

### Sarcoma Fusion Gene Listing

<table>
<thead>
<tr>
<th>Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>COL1A1::PDGFB, t(17;22)</td>
<td>EWSR1::FLI1 or EWSR1::ERG</td>
<td>PAX3::FOX01 or PAX7::FOX01</td>
</tr>
<tr>
<td>ETV6::NTRK3, t(12;15)</td>
<td>EWSR1::WT1, t(11;22)</td>
<td>SS18::SSX1, t(X;18)</td>
</tr>
<tr>
<td>EWSR1::ATF1, t(12;22)</td>
<td>FUS::DDIT3, t(12;16)</td>
<td>SS18::SSX2, t(X;18)</td>
</tr>
<tr>
<td>EWSR1::ERG, t(21;22)</td>
<td>PAX3::FOX01, t(2;13)</td>
<td>SS18::SSX1 or SS18::SSX2</td>
</tr>
<tr>
<td>EWSR1::FLI1, t(11;22)</td>
<td>PAX7::FOX01, t(1;13)</td>
<td></td>
</tr>
</tbody>
</table>

*See fusion gene listing below.
**Cell-free Tumor DNA**  
**CFDNA**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>cfDNA</td>
<td>CFDNA</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- DNA fragments stabilized in simulated plasma.
- This is not intended for laboratories that perform circulating tumor cell (CTC) analysis.
- Genes in this program include: *EGFR, BRAF, KRAS, NRAS, IDH1, PIK3CA, ERBB2, MET*, and *BRCA1*.
- This program includes variants present with a variant allele fraction (VAF) range of 0.1% - 3.0%.

**Fusion RNA Sequencing**  
**RNA**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNA</td>
<td>RNA</td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**
- Total RNA from a cell line engineered to contain desired fusion RNA.
- This is for laboratories using RNAseq to detect gene fusion transcripts.
- This is not intended to replace the current program (SARC) for reverse transcription (RT)-PCR based detection (see page 275).
- Potential fusion variants include: *CD74::ROS1, EML4::ALK, ETV6::NTRK3, FGFR3::TACC3, PAX8::PPARG, SLC45A3::BRAF*.
- Specific intragenic fusion/exon skipping variants may also be included, specifically *EGFRvIII and MET exon 14 skipping*.

**Solid Tumor—Other**  
**BRAF, EGFR, KRAS, KIT**

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BRAF</strong></td>
<td>BRAF</td>
<td>3</td>
</tr>
<tr>
<td><strong>EGFR</strong></td>
<td>EGFR</td>
<td>3</td>
</tr>
<tr>
<td><strong>KRAS</strong></td>
<td>KRAS</td>
<td>3</td>
</tr>
<tr>
<td><strong>KIT</strong></td>
<td>KIT</td>
<td>3</td>
</tr>
<tr>
<td><strong>PDGFRA</strong></td>
<td>PDGFRA</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**
- Three 125-ng DNA (25 ng/mL) specimens
- Two shipments per year
### Multigene Tumor Panel MTP

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAF</td>
<td>MTP</td>
<td>3</td>
</tr>
<tr>
<td>EGFR</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ERBB2 (HER2)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>KIT</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>KRAS</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>NRAS</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>PDGFRA</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>PIK3CA</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

CAP accredited laboratories that perform testing for the detection of somatic single nucleotide variants, insertions, and deletions in BRAF, EGFR, and KRAS by non-NGS methods are required to enroll in either MTP or the respective single gene programs. This includes laboratories that perform non-NGS-based multiplexed assays and nonmultiplexed assays (eg, Sanger sequencing). Laboratories that perform NGS-based testing of somatic single nucleotide variants, insertions, and deletions in BRAF, KRAS, EGFR, and/or other genes are required to enroll in NGSST (on page 266) as this proficiency testing program provides challenges with lower variant allele fractions as well as challenges in other genes commonly included in NGS-based panels for the identification of somatic variants in solid tumors.

### Glioma GLI

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT</td>
<td>GLI</td>
<td>3</td>
</tr>
<tr>
<td>IDH1, IDH2</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Program Information
- Three 2.0-µg gDNA (50 ng/µL) specimens for laboratories performing molecular testing on multiple targets
- Two shipments per year

Program Information
- Four 2.0-µg gDNA (50 ng/µL) specimens
- One specimen containing four 10.0-micron unstained paraffin section slides and one H&E slide
- For laboratories performing molecular testing using PCR
- Two shipments per year
## Molecular Oncology—Hematologic

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Molecular Hematologic Oncology

<table>
<thead>
<tr>
<th>Procedure/Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MHO/MHO1, MHO2/MHO3, MHO5</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Lymphoid Malignancy Genotyping

<table>
<thead>
<tr>
<th>Procedure/Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGH</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IGH::BCL2 major</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IGH::BCL2 minor</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IGH::CCND1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IGK</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TRB</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TRG</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

#### Myeloid Malignancy Genotyping

<table>
<thead>
<tr>
<th>Procedure/Gene</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCR::ABL1 p190</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BCR::ABL1 p210</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CALR</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CBFB::MYH11</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FLT3 ITD</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FLT3 TKD</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>JAK2 c.1849G&gt;T(p.V617F)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>KMT2A-PTD (MLL-PTD)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MPL</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>NPM1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PML::RARA</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>RUNX1::RUNX1T1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

DNA extraction and amplification from formalin-fixed, paraffin-embedded (FFPE) tissue

<table>
<thead>
<tr>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

### Program Information

- **MHO** - One sample vial containing purified DNA (200 μg/mL per vial) for each specimen
- **MHO1** - MHO specimens in duplicate for additional DNA testing
- **MHO2** - Two sample vials; one with purified DNA containing 200 μg/mL and one with purified RNA containing 400 μg/mL
- **MHO3** - MHO2 specimen in duplicate for additional DNA and RNA testing
- **MHO5** - Three 10.0-micron paraffin sections; extraction and amplification from FFPE tissue will be assessed by a method-based challenge
- Two shipments per year; ships on dry ice (dry ice does not apply to MHO5)
IGHV Mutation Analysis

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGHV</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Additional Information**

- Sequence analysis of the clonal immunoglobulin heavy chain V gene (IGHV) to determine somatic hypermutation (SHM) status.
- Any sequencing method may be used.
- Report productive/unproductive rearrangement, SHM status, percent similarity, and V-gene utilization.

Minimal Residual Disease MRD, MRD1, MRD2

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCR::ABL1 p190</td>
<td>MRD MRD1 MRD2</td>
<td>3</td>
</tr>
<tr>
<td>BCR::ABL1 p210</td>
<td>MRD MRD1 MRD2</td>
<td>3</td>
</tr>
<tr>
<td>PML::RARA</td>
<td>MRD MRD1 MRD2</td>
<td>3</td>
</tr>
</tbody>
</table>

**Program Information**

- MRD, MRD1, MRD2 - Three RNA specimens in sterile water
- For laboratories diagnosing and monitoring leukemia tumor burden by measuring the quantity of BCR::ABL1 or PML::RARA fusion transcripts
- Two shipments per year; ships on dry ice
Laboratory Administration for Pathologists, Second Edition

Designed to provide pathologists with an overview of the fundamentals of management and leadership, Laboratory Administration for Pathologists addresses the specific role and responsibility of the pathologist in directing the laboratory.

- Provides information for both clinical and anatomic pathology practice
- Includes an overview of patient safety not available in the first edition
- Covers financial management of the laboratory and the pathology practice
- Geared for trainees and those entering practice while appropriate for all pathologists

Add it to your order.

Or, view sample pages and purchase online:

- printed books at estore.cap.org
- ebooks at ebooks.cap.org
Depend on our commitment to slide quality for PAP PT and PAP Education programs.

- Every slide is reviewed and approved by pathologists and cytotechnologists before it is put in circulation.
- All slide sets are reviewed every six months by a staff cytotechnologist.
- Slides that do not maintain consensus grading are removed from the program and reviewed by a committee of pathologist experts.

Anatomic Pathology

Surgical Pathology ................................................................. 282
General Immunohistochemistry .................................................. 295
Immunohistochemistry Predictive Markers ..................................... 297
Immunohistochemistry Prognostic Markers ..................................... 300
Specialty Anatomic Pathology .................................................... 301
Cytopathology ........................................................................ 305

New Programs  NEW

CAP/NSH HistoQIP Cell Block Preparations (HQCLB) ......................... 287
CAP/NSH HistoQIP Targeted Therapy (HQTAR) .................................. 288

Program Changes

CAP/NSH HistoQIP Whole Slide Image Quality Improvement Program (HQWSI) Challenges increased from four to five per mailing ................................................................. 288
Anatomic Pathology

Surgical Pathology

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Online Performance Improvement Program in Surgical Pathology  PIPW/PIPW1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology case review</td>
<td>PIPW/PIPW1</td>
<td>10</td>
</tr>
</tbody>
</table>

### Additional Information

- PIPW prepares pathologists to succeed by providing ongoing diagnostic learning in general surgical pathology.
- Pathologists can assess their diagnostic skills and compare their performance with that of their peers.
- Included PIPW case selections feature:
  - A variety of neoplastic and nonneoplastic lesions
  - Inflammatory and infectious diseases
  - Various sites, encompassing a variety of organ systems
- See system requirements on page 13.

### Program Information

- PIPW - Ten diagnostic challenges/whole slide H&E images with clinical history; CME credit is available for one pathologist; for each additional pathologist, order PIPW1
- PIPW1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with program PIPW
- Earn a maximum of 40 CME credits (AMA PRA Category 1 Credits™) per pathologist for completion of an entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Powered by DigitalScope® technology
- Four online activities per year; your CAP shipping contact will be notified via email when the activity is available

[![CME credit](image)](image)
Performance Improvement Program in Surgical Pathology  PIP/PIP1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology case review</td>
<td>PIP/PIP1</td>
<td>10</td>
</tr>
</tbody>
</table>

**Additional Information**

- PIP prepares pathologists to succeed by providing ongoing diagnostic learning in general surgical pathology.
- This program:
  - Provides a practical approach to continuing education
  - Gives pathologists a method to assess their diagnostic skills and compare their performance with that of their peers
  - Allows you to experience smaller tumors and more interesting cases by providing two online cases per release
  - Features PIP case selections that include:
    - A variety of neoplastic and nonneoplastic lesions
    - Inflammatory and infectious diseases
    - Various sites, encompassing a variety of organ systems

**Program Information**

- PIP - Ten diagnostic challenges with clinical history: eight H&E stained glass slides and two online only cases; CME credit is available for one pathologist; for each additional pathologist, order PIP1
- PIP1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with program PIP
- Powered by DigitalScope technology
- Earn a maximum of 40 CME credits (AMA PRA Category 1 Credits) per pathologist for completion of an entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Four shipments per year
Virtual Biopsy Program  VBP/VBP1

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online biopsy case review</td>
<td>VBP/VBP1</td>
<td>5</td>
</tr>
</tbody>
</table>

Additional Information
- VBP prepares pathologists to succeed by providing ongoing diagnostic learning in surgical pathology.
- This program is applicable to all pathologists, including general pathologists, and focuses on biopsy material. Cases may include gross, radiographic, or endoscopic images.
- There are four topical releases per year that focus on benign and malignant pathology. Cases are from selected organ systems and may include a variety of specimen types (eg, core biopsies, endoscopic biopsies, curettings, aspirate smears).
- See system requirements on page 13.

Program Information
- VBP - Five diagnostic challenges/whole slide images with clinical history; reporting with CME credit is available for one pathologist; for each additional pathologist, order VBP1
- VBP1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with program VBP
- Earn a maximum of 25 CME credits (AMA PRA Category 1 Credits) per pathologist for completion of an entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Powered by DigitalScope technology
- Four online activities per year; your CAP shipping contact will be notified via email when the activity is available
New for 2023: Access CPIP cases when and where it's convenient via PC or personal mobile device.

Pathologists can keep abreast of current scientific knowledge with interactive, case-based learning to address both common and esoteric issues faced in the laboratory.

CPIP supports pathologists who do principally clinical pathology as well as those who do primarily anatomic pathology but cover clinical pathology. A diverse portfolio of real-life case scenarios, including images and clinical background, help pathologists to stay current on issues and advances in the laboratory.

Designed for pathologists, by pathologists. Each case is developed and peer-reviewed, ensuring learnings are practical and easily applied to work. Thought-provoking questions with feedback and multiple choice knowledge checks assess and confirm diagnostic skills. Participants may apply 1.25 CME credits for each CPIP toward the ABPath's Continuing Certification (CC) requirements.

### Clinical Pathology Improvement Program

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Program Code</th>
<th>Cases per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online cases in clinical pathology</td>
<td>CPIP/CPIP1</td>
<td>12</td>
</tr>
</tbody>
</table>

**Consider CPIP for:**

- Medical directors seeking to continuously improve the clinical pathology knowledge and collective skills of their pathology team.
- Pathologists with clinical and/or laboratory management responsibilities.
- Pathologists seeking CME CC credits in clinical pathology.
- Subspecialty clinical pathologists who need to keep current.

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Case Schedule (subject to change)</th>
<th>Month 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Management</td>
<td>Occurrence management</td>
<td>January</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Hypoxemia</td>
<td>February</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>Merging laboratories and implications for blood banks</td>
<td>March</td>
</tr>
<tr>
<td>Microbiology</td>
<td>C. difficile</td>
<td>April</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>Platelet refractoriness</td>
<td>May</td>
</tr>
<tr>
<td>Molecular Pathology</td>
<td>Fetal aneuploidy</td>
<td>June</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Hemoglobin A1c</td>
<td>July</td>
</tr>
<tr>
<td>Microbiology</td>
<td>Microbiology checklist breakpoints</td>
<td>August</td>
</tr>
<tr>
<td>Hematology</td>
<td>Monocytosis</td>
<td>September</td>
</tr>
<tr>
<td>Cytogenetics</td>
<td>B-Lymphoblastic leukemia/lymphoma</td>
<td>October</td>
</tr>
<tr>
<td>Molecular Pathology</td>
<td>Pitfalls/limitations of molecular methodologies</td>
<td>November</td>
</tr>
<tr>
<td>Transfusion Medicine</td>
<td>von Willebrand Disease</td>
<td>December</td>
</tr>
</tbody>
</table>

To learn more visit cap.org and search CPIP.
Touch Imprint/Crush Preparation  TICP/TICP1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online slide and image program in rapid assessment case review</td>
<td>TICP/TICP1</td>
<td>4</td>
</tr>
</tbody>
</table>

Additional Information

- The TICP program gets surgical pathologists, cytopathologists, and cytotechnologists ready to succeed by familiarizing them with the cytomorphologic features of pathologic processes and tumors in touch imprints and crush or scrape preparations. These specimens are prepared either for intraoperative consultation (frozen section) or rapid on-site evaluation (ROSE) of tissue biopsies for adequacy and/or interpretation. Participants will learn to make an immediate adequacy assessment, assign the process to a general category, and triage the specimen to appropriate ancillary studies. Participants will review digital whole slides of the TICP preparations (hematoxylin & eosin, modified Wright-Giemsa, and/or Papanicolaou stains), static images of the preparation and ancillary studies, and clinical history/radiographic findings to reach a diagnosis. Each case has a complete description of entities in the differential diagnosis along with a discussion of the correct interpretation.
- Participants will receive immediate feedback on interpretations, ancillary studies, and case-related adequate assessment.
- The cases will focus on TICP lymph node and miscellaneous tumors.
- May include rarely captured cases that may not be available on the glass slide.
- See system requirements on page 13.

Program Information

- TICP - Four online assessment challenges with clinical history; TICP provides CME or CE credit for one pathologist or cytotechnologist; for each additional pathologist or cytotechnologist, order TICP1
- TICP1 - Reporting option with CME or CE credit for each additional pathologist/ cytotechnologist (within the same institution); must order in conjunction with program TICP
- Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits) per pathologist and a maximum of 10 CE credits per cytotechnologist for completion of an entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Online, whole slide images powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
### CAP/NHS HistoQIP HqiP

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Appendix resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Pancreas resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - CK20 colon resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - Synaptophysin, pancreas resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>Special Stain - Elastin, temporal artery biopsy</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Fallopian tube resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Uterus resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - p40/p63 breast resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - CD20, lymph node resection</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
<tr>
<td>Special Stain - PAS, fungal positive skin control material</td>
<td>HQIP</td>
<td>A 1</td>
</tr>
</tbody>
</table>

HistoQIP improves the preparation of histologic slides in all anatomic pathology laboratories. In this educational program, participants will receive an evaluation specific to their laboratory and a participant summary that includes peer comparison data, evaluators’ comments, and performance benchmarking data. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

### CAP/NHS HistoQIP Cell Block Preparations HQCLB

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Pleural fluid, with mesothelial cells</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - Calretinin on pleural fluid with mesothelial cells</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Thyroid fine needle aspiration (FNA) biopsy with follicular epithelial cells</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - TTF-1 thyroid FNA with follicular cells</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Pelvic wash with serous carcinoma</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - Ber-EP4 on pelvic wash with serous carcinoma</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Nonneoplastic lymph node FNA biopsy</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - CD20 nonneoplastic lymph node FNA biopsy</td>
<td>HQCLB</td>
<td>A 1</td>
</tr>
</tbody>
</table>

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
### CAP/NHS HistoQIP Targeted Therapy  HQTAR

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Breast ductal carcinoma</td>
<td>A B</td>
<td></td>
</tr>
<tr>
<td>IHC - HER2, breast ductal carcinoma</td>
<td>A B</td>
<td></td>
</tr>
<tr>
<td>H&amp;E - Urothelial carcinoma</td>
<td>A B</td>
<td></td>
</tr>
<tr>
<td>IHC - PD-L1, urothelial carcinoma</td>
<td>A B</td>
<td></td>
</tr>
<tr>
<td>H&amp;E - Gastroesophageal adenocarcinoma</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - HER2, gastroesophageal adenocarcinoma</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Breast lobular carcinoma</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - ER, breast lobular carcinoma</td>
<td>A B</td>
<td>1</td>
</tr>
</tbody>
</table>

### CAP/NHS HistoQIP Whole Slide Image Quality Improvement Program  HQWSI

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Appendix resection</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Lymph node resection</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - <em>H. pylori</em>, stomach biopsy</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>Special Stain - Trichrome, liver biopsy</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Prostate, invasive adenocarcinoma, resection or biopsy</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Spleen resection</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Prostate resection, TURP</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - Ki-67, breast carcinoma, resection or biopsy</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>Special Stain - Elastin, lung resection</td>
<td>A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Breast, invasive carcinoma, resection or biopsy</td>
<td>A B</td>
<td>1</td>
</tr>
</tbody>
</table>

The HQWSI program provides feedback to laboratories using whole slide imaging for clinical applications. Participants upload their scanned whole slide images to the CAP designated server. An expert panel of pathologists, histotechnicians, and histotechnologists evaluates image and histologic quality using uniform grading criteria. Participants will receive an evaluation and a participant summary, as well as annotated feedback directly on their uploaded images.

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
The HistoQIP Biopsy Series is an additional program to improve the preparation of histologic slides in all anatomic pathology laboratories. Participants will receive an evaluation specific to their laboratory and a participant summary. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

### Program Information
- Participants may submit up to four H&E stained and coverslipped glass slides (one from each category) per mailing
- Two shipments per year

### Grossing, Staging, and Reporting: An Integrated Manual of Modern Surgical Pathology

Gross dissection is the first step in analyzing a resection specimen. *Grossing, Staging and Reporting* presents a standardized approach for practicing pathologists, pathologists-in-training, and pathologists’ assistants who handle specimens. This manual is organized by organ system and incorporates AJCC staging criteria and elements of the CAP cancer protocols.

**Topics covered:**
- Indications for procedures
- Expected macroscopic and microscopic findings
- Step-by-step dissection techniques
- Potential staging pitfalls and solutions
- Sample reporting templates

**Add it to your order.**

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

---

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E – Bladder biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Cervical biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Skin punch biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Stomach biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Colon biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Endometrial biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Prostate needle biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E – Breast core biopsy</td>
<td>HQIPBX</td>
<td>1</td>
</tr>
</tbody>
</table>

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
### CAP/NSH HistoQIP Specialty Series

#### HQBX1, HQBX2, HQBX3, HQBX4

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HQBX1</td>
<td>HQBX2</td>
</tr>
<tr>
<td><strong>Gastrointestinal Biopsy Module</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Colon biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Esophagus biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Small intestine biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Stomach biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Dermatologic Biopsy Module</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Alopecia biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Skin excisional biopsy (large excision)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Skin punch biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Skin shave biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Urogenital Tract Biopsy Module</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Bladder biopsy (nonneoplastic)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Bladder biopsy (with urothelial carcinoma)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Prostate needle biopsy (nonneoplastic)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Prostate needle biopsy (with carcinoma)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Gynecological Biopsy Module</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H&amp;E – Cervical biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Endometrial biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Cervical cone/LEEP biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>H&amp;E – Vaginal biopsy</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

The HistoQIP Specialty Series includes modules to improve the preparation of histologic slides in all anatomic pathology laboratories involved in the handling of gastrointestinal, dermatologic, urogenital tract, and gynecologic biopsies. Participants will receive an evaluation specific to their laboratory and a participant summary. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.

**Program Information**
- HQBX1, HQBX2, HQBX3, HQBX4 - Participants may submit up to four H&E stained and coverslipped glass slides (one from each category) per mailing
- Two shipments per year

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
### CAP/NHS HistoQIP In Situ Hybridization (HPV/EBV) - HQISH

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Cervical biopsy</td>
<td>HQISH</td>
<td>A 1</td>
</tr>
<tr>
<td>ISH - DNA/RNA negative control probe ISH</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ISH - DNA/RNA positive control probe ISH</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ISH - Human papillomavirus (HPV) ISH (HPV probe, ISH)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Epstein-Barr virus (EBV) positive lymphoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ISH - DNA/RNA negative control probe ISH</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ISH - DNA/RNA positive control probe ISH</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ISH - EBV ISH (EBV probe, ISH)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

This program augments efforts to improve the preparation of ISH slides in all anatomic pathology laboratories involved in the handling of specimens undergoing analysis for HPV and EBV detection by chromogenic in situ hybridization.

### CAP/NHS HistoQIP IHC Series - HQIHC

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC - p16, squamous cell carcinoma</td>
<td>HQIHC</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - Ber-EP4, lung adenocarcinoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - Glypican 3 (GLP3), hepatocellular carcinoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - SMA, leiomyoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - SATB2, colorectal adenocarcinoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - CD31, skin resection</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - CD15, Hodgkin lymphoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - Pan cytokeratin, liver resection</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - BCL6, follicular lymphoma</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>IHC - NKx3.1, prostatic adenocarcinoma</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

The HistoQIP IHC Series improves the preparation of immunohistochemistry slides in all anatomic laboratories involved in the handling of a broad range of surgical specimens. Participants will receive an evaluation specific to their laboratory and a participant summary. An expert panel of pathologists, histotechnologists, and histotechnicians will evaluate submitted slides for histologic technique using uniform grading criteria.
### CAP/NSH HistoQIP

#### Central Nervous System IHC  HQNEU

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Pituitary gland (adenohypophysis)</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - Growth hormone (GH), pituitary gland (adenohypophysis)</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - Prolactin, pituitary gland (adenohypophysis)</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Hemangioblastoma</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - Inhibin, hemangioblastoma</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Medulloblastoma</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - Synaptophysin, medulloblastoma</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - Ki-67, medulloblastoma</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;E - Atypical teratoid/rhabdoid tumor (AT/RT)</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
<tr>
<td>IHC - INI-1, AT/RT</td>
<td>HQNEU A B</td>
<td>1</td>
</tr>
</tbody>
</table>

This program augments efforts to improve the preparation of H&E and immunohistochemical slides in all anatomic pathology laboratories involved in the handling of central nervous system gliomas.

### Program Information
- Participants may submit up to three IHC and two H&E stained coverslipped glass slides (one from each category) per mailing
- Two shipments per year

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
CAP/NSH HistoQIP Non-small Cell Lung Carcinoma IHC HQNSC

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E – Lung adenocarcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>IHC – TTF-1, lung adenocarcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>IHC – Napsin A, lung adenocarcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>H&amp;E – ALK, positive lung adenocarcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>IHC – ALK, positive lung adenocarcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>H&amp;E – Lung squamous cell carcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>IHC – p40/p63, lung squamous cell carcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>IHC – CK5 or CK5/6, lung squamous cell carcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>H&amp;E – PD-L1, positive lung squamous cell carcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
<tr>
<td>IHC – PD-L1, positive lung squamous cell carcinoma</td>
<td>HQNSC</td>
<td>A: 1</td>
</tr>
</tbody>
</table>

This program augments efforts to improve the preparation of H&E and immunohistochemical slides in all anatomic pathology laboratories involved in the handling of non-small cell lung carcinoma.

Learn the secret to good slide technique.

Histologic Preparations: Common Problems and Their Solutions is a how-to guide to good slide preparation. Building on data and images from the CAP/NSH HistoQIP program, the book presents photographic examples of well-prepared slides followed by numerous examples of associated problems and their solutions. The text contains troubleshooting techniques for the most common artifacts and problems incurred in routine histologic preparations, including fixation and processing; microtomy; frozen sections; hematoxylin-eosin, trichrome, reticulin, elastin, basement membrane, mucin, amyloid, immunohistochemical, and Gram stains, along with mycobacteria, Helicobacter pylori, spirochetes, and fungi.

Add Histologic Preparations: Common Problems and Their Solutions (PUB123) to your order. Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
### CAP/NSH HistoQIP Melanoma IHC

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E - Melanoma skin biopsy</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - Melan A/MART-1 melanoma skin biopsy</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - SOX10 melanoma skin biopsy</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - PD-L1 positive melanoma</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - PD-L1 positive melanoma</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Melanoma skin resection</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - S100 melanoma skin resection</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - HMB-45 melanoma skin resection</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E - Melanoma with CD8 positive tumor infiltrating lymphocytes</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC - CD8 melanoma with CD8 positive tumor infiltrating lymphocytes</td>
<td>HQMEL</td>
<td>A 1</td>
</tr>
</tbody>
</table>

This program augments efforts to improve the preparation of H&E and immunohistochemical slides in all anatomic pathology laboratories involved in the handling of skin specimens containing melanoma.

### CAP/NSH HistoQIP Mismatch Repair IHC

<table>
<thead>
<tr>
<th>Stain/Tissue</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>H&amp;E – Colonic adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – MLH1, colonic adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – MSH2, colonic adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – MSH6, colonic adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – PMS2, colonic adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>H&amp;E – Endometrial adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – MLH1, endometrial adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – MSH2, endometrial adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – MSH6, endometrial adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
<tr>
<td>IHC – PMS2, endometrial adenocarcinoma</td>
<td>HQMMR</td>
<td>A 1</td>
</tr>
</tbody>
</table>

This program augments efforts to improve the preparation of H&E and immunohistochemical slides in all anatomic pathology laboratories involved in the handling of colonic and endometrial tumors performing mismatch repair IHC.

HistoQIP programs that include IHC stains assess preanalytic steps. For immunohistochemistry programs that focus on instrument analytic and pathologist readout steps, see the immunohistochemistry programs on pages 297-300.
General Immunohistochemistry

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Immunohistochemistry MK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure</td>
<td>Program Code</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>MK</td>
</tr>
</tbody>
</table>

The MK program allows laboratories to compare their assay methodology and results with all participating laboratories. Case materials are donated and represent a variety of diagnostic entities. Markers will vary in each case and will provide a wide range of IHC testing for routine surgical pathology practices.

<table>
<thead>
<tr>
<th>CD117 Immunohistochemistry Tissue Microarray PM1</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyte</td>
<td>Program Code</td>
</tr>
<tr>
<td>CD117</td>
<td>PM1</td>
</tr>
</tbody>
</table>

For ER/PgR testing, see the PM2 program on page 297.

<table>
<thead>
<tr>
<th>Immunohistochemistry Tissue Microarray Series PM5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyte</td>
<td>Program Code</td>
</tr>
<tr>
<td>BAP1</td>
<td>PM5</td>
</tr>
<tr>
<td>Beta-catenin</td>
<td></td>
</tr>
</tbody>
</table>

Each year, the PM5 program will feature two different markers for immunohistochemistry laboratories to evaluate assay performance on a variety of tissue and/or tumor types. The IHC markers for this program may change from those listed above due to development constraints.

These immunohistochemistry programs assess instrument analytic and pathologist readout steps. For programs focusing on preanalytic steps, see the HistoQIP IHC programs on pages 287-294.
**General Immunohistochemistry**

These immunohistochemistry programs assess instrument analytic and pathologist readout steps. For programs focusing on preanalytic steps, see the HistoQIP IHC programs on pages 287-294.

---

### p53 Immunohistochemistry Tissue Microarray  P53

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>p53</td>
<td>P53</td>
<td>10</td>
</tr>
</tbody>
</table>

The purpose of this program is to assess the laboratory’s ability to detect various patterns of p53 staining, which is diagnostically useful in several tumor types.

---

### Dermatopathology Immunohistochemistry  DPIHC

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatopathology</td>
<td>DPIHC</td>
<td>8</td>
</tr>
</tbody>
</table>

This case-based program assesses the laboratory’s ability to perform and interpret immunostains commonly used in dermatopathology practice.

---

### CAP/ACMG ERBB2 (HER2) Amplification by FISH, Interpretation Only  CYHI

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERBB2 (HER2) amplification in breast cancer, interpretation only</td>
<td>CYHI</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Information

- **ERBB2 (HER2) Amplification by FISH, Interpretation Only**, is an exercise and is not considered proficiency testing. This exercise may be used to meet the requirements for alternative assessment.
- This program is for laboratories that perform interpretation only for HER2 FISH for breast cancer.
- For laboratories that perform both hybridization and interpretation for HER2 FISH for breast cancer under the same CLIA number, see page 255.

---

Program Information

- One 10-core tissue microarray slide
- Two shipments per year

---

Program Information

- Six glass slides with unstained tissue sections from two separate cases; each case includes four slides for selected IHC markers, one slide for H&E, and one slide for negative control
- Two shipments per year

---

Program Information

- Three online interpretation challenges; your CAP shipping contact will be notified via email when the activity is available
- Two shipments per year
Immunohistochemistry Predictive Markers

Analytes/procedures in **bold** type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>HER2 Immunohistochemistry</th>
<th>HER2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>HER2</td>
<td>HER2</td>
</tr>
</tbody>
</table>

The HER2 program fulfills the proficiency testing requirement stated in the ASCO/CAP HER2 Testing Guideline. Due to the unique nature of these human, donor-based materials, the shipping date is subject to change. If this should occur, the CAP will provide notification prior to the originally scheduled shipping date.

<table>
<thead>
<tr>
<th>Gastric HER2</th>
<th>GHER2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
</tr>
<tr>
<td>HER2</td>
<td>GHER2</td>
</tr>
</tbody>
</table>

Additional Information
- The Gastric HER2 program fulfills the proficiency testing requirement stated in the CAP/ASCP/ASCO Gastroesophageal HER2 Testing Guideline.
- The interpretive criteria for HER2 immunohistochemistry performed on gastroesophageal adenocarcinomas differs significantly from breast carcinoma. The GHER2 program will help participating laboratories understand these differences.

<table>
<thead>
<tr>
<th>ER/PgR Immunohistochemistry</th>
<th>Tissue Microarray</th>
<th>PM2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyte</strong></td>
<td><strong>Program Code</strong></td>
<td><strong>Challenges per Shipment</strong></td>
</tr>
<tr>
<td>Estrogen receptor (ER)</td>
<td>PM2</td>
<td>20</td>
</tr>
<tr>
<td>Progesterone receptor (PgR)</td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

The PM2 program fulfills the ER proficiency testing requirement and the PgR alternative assessment requirement stated in the ASCO/CAP ER/PgR Testing Guideline. Due to the unique nature of these human, donor-based materials, the shipping date is subject to change. If this should occur, the CAP will provide notification prior to the originally scheduled shipping date.

These immunohistochemistry programs assess instrument analytic and pathologist readout steps. For programs focusing on preanalytic steps, see the HistoQIP IHC programs on pages 287-294.
CD20 Immunohistochemistry Tissue Microarray  PM3

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD20</td>
<td>PM3</td>
<td>10</td>
</tr>
</tbody>
</table>

For ER/PgR testing, see the PM2 program on page 297.

Highly Sensitive Anaplastic Lymphoma Kinase IHC  PM6

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly sensitive anaplastic lymphoma kinase IHC (ALK)</td>
<td>PM6</td>
<td>10</td>
</tr>
</tbody>
</table>

This program assesses the laboratory's ability to detect ALK-rearranged lung cancers using highly sensitive ALK immunohistochemistry. The ALK1 clone is NOT highly sensitive and should not be used in this program.

BRAF V600E  BRAFV

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRAF V600E</td>
<td>BRAFV</td>
<td>10</td>
</tr>
</tbody>
</table>

The purpose of this program is to assess the laboratory's ability to detect BRAF V600E mutant tumors using mutation-specific immunohistochemistry.

CD30 Immunohistochemistry Tissue Microarray  CD30

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD30</td>
<td>CD30</td>
<td>10</td>
</tr>
</tbody>
</table>

This program assesses the laboratory's ability to detect CD30 expression in lymphomas, which has emerged as a key therapeutic target.

These immunohistochemistry programs assess instrument analytic and pathologist readout steps. For programs focusing on preanalytic steps, see the HistoQIP IHC programs on pages 287-294.
### DNA Mismatch Repair  MMR

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLH1 by IHC</td>
<td>MMR</td>
<td>10</td>
</tr>
<tr>
<td>MSH2 by IHC</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>MSH6 by IHC</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>PMS2 by IHC</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

If your laboratory performs DNA mismatch repair by molecular methods, see the MSI program on page 274.

### PD-L1 Immunohistochemistry  PDL1

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD-L1</td>
<td>PDL1</td>
<td>10</td>
</tr>
</tbody>
</table>

The purpose of this program is to assess the laboratory's ability to detect PD-L1 expression and apply various PD-L1 scoring systems.

---

**Expand your knowledge with CAP Publications**

Our books address your learning needs.
- Timely topics
- Authored by recognized experts
- Available in print and ebook formats
- View images, blood smears, videos, and more

View sample pages and order online:
- ebooks at ebooks.cap.org
- printed books at estore.cap.org

---

These immunohistochemistry programs assess instrument analytic and pathologist readout steps. For programs focusing on preanalytic steps, see the HistoQIP IHC programs on pages 287-294.
Immunohistochemistry Prognostic Markers

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### c-Myc/Bcl-2 Immunohistochemistry Tissue Microarray  MYCB

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>c-Myc</td>
<td>MYCB</td>
<td></td>
</tr>
<tr>
<td>Bcl-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This program assesses the laboratory’s ability to detect c-Myc and Bcl-2-positivity in large B-cell lymphomas, which have emerged as critical prognostic markers.

**Program Information**
- Two 10-core tissue microarray slides, one for c-Myc and one for Bcl-2
- Two shipments per year

### p16 Immunohistochemistry Tissue Microarray  P16

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>p16</td>
<td>P16</td>
<td></td>
</tr>
</tbody>
</table>

This program assesses the laboratory's ability to detect p16 overexpression in squamous cell carcinomas, mainly as a surrogate for HR-HPV detection in head and neck tumors.

**Program Information**
- One 10-core tissue microarray slide
- Two shipments per year

### Ki-67 Immunohistochemistry Tissue Microarray  KI67

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ki-67</td>
<td>KI67</td>
<td></td>
</tr>
</tbody>
</table>

The purpose of this program is to assess the laboratory's ability to accurately quantify the Ki-67 proliferation index, which is prognostically significant and emerging as a companion diagnostic.

**Program Information**
- One 10-core cell line tissue microarray slide
- Two shipments per year

These immunohistochemistry programs assess instrument analytic and pathologist readout steps.
For programs focusing on preanalytic steps, see the HistoQIP IHC programs on pages 287-294.
Specialty Anatomic Pathology

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

### Autopsy Pathology

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autopsy online case analysis</td>
<td>AUP/AUP1</td>
<td>5</td>
</tr>
</tbody>
</table>

- AUP prepares pathologists and pathologists’ assistants to succeed by providing ongoing diagnostic learning in autopsy pathology.
- Each case includes case description, gross and/or microscopic images, and case discussion with sample death certificate, key teaching points, and current references.

### Program Information

- **AUP** - Online activity providing five cases; reporting with CME or CE credit is available for one pathologist or pathologists’ assistant; for each additional pathologist/pathologists’ assistant, order AUP1
- Includes the option to download program content
- **AUP1** - Reporting option with CME or CE credit for each additional pathologist or pathologists’ assistant (within the same institution); must order in conjunction with program AUP
- Earn a maximum of 12.5 CME credits (AMA PRA Category 1 Credits) per pathologist and a maximum of 12.5 CE credits per pathologists’ assistant for completion of entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Online, whole slide images powered by DigitalScope technology (if available)
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
Digital Slide Program—Dermatopathology

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPATH/DPATH1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online dermatopathology case review</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information

- DPATH prepares pathologists, dermatopathologists, and dermatologists to succeed by providing ongoing diagnostic learning in dermatopathology.
- Cases include static images.
- See system requirements on page 13.

Program Information

- DPATH - Six diagnostic challenges/whole slide images with clinical history; reporting with CME credit is available for one pathologist; for each additional pathologist, order DPATH1
- DPATH1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with program DPATH
- Earn a maximum of 15 CME credits (AMA PRA Category 1 Credits) per pathologist for completion of an entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available

Atlas of Fundamental Infectious Diseases Histopathology

Using real-world examples, this invaluable guide provides anatomic pathologists the tools necessary to identify infectious organisms in tissue.

Add it to your order.

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Item number: PUB127
Softcover; 304 pages;
800+ images and tables; 2018
Hematopathology Online Education  
**HPATH/HPATH1**

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hematopathology online case review</td>
<td>HPATH/HPATH1</td>
<td>5</td>
</tr>
</tbody>
</table>

**Additional Information**

HPATH prepares pathologists, hematopathologists, and hematologists to succeed by providing ongoing diagnostic learning in hemato pathology.

- Clinical history and relevant laboratory data.
- At least one online, whole slide image of peripheral blood, bone marrow, spleen, lymph node, or other tissue.
- Results of ancillary studies such as immunohistochemistry, flow cytometry, FISH, karyotyping, and molecular studies, where appropriate.
- Case discussion and discussion of differential diagnoses.
- Each case includes assessment questions.
- See system requirements on page 13.

**Program Information**

- **HPATH** - Five diagnostic challenges/online, whole slide images with clinical history; reporting with CME credit is available for one pathologist/hematologist; for additional pathologist/hematologist, order HPATH1

- **HPATH1** - Reporting option with CME credit for each additional pathologist/hematologist (within the same institution); must order in conjunction with program HPATH

- Earn a maximum of 12.5 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 12.5 CE credits per hematologist for completion of an entire year

- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)

- Powered by DigitalScope technology

- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
NP prepares anatomic pathologists, neuropathologists, and trainees to succeed by providing ongoing diagnostic learning in neuropathology. Each shipment of this educational program includes eight cases that cover the spectrum of neoplastic and nonneoplastic disorders affecting the central and peripheral nervous systems, including infectious, degenerative, developmental, demyelinating, traumatic, toxic-metabolic, vascular, and neuromuscular diseases. In addition, each mailing will include a mini-symposium that focuses on a specific problem area in neuropathology, which relates to at least four of the eight cases.

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuropathology online case review</td>
<td>NP/NP1</td>
<td>8</td>
</tr>
</tbody>
</table>

Program Information

- NP - Online activity providing eight cases and a mini-symposium; reporting with CME credit is available for one pathologist; for each additional pathologist, order NP1
  - Includes option to download program content
  - NP1 - Reporting option with CME credit for each additional pathologist (within the same institution); must order in conjunction with program NP
- Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits) per pathologist
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
Cytopathology

Anatomic Pathology

Cytopathology

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Slide Type</th>
<th>Program Code</th>
<th>Challenges per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PAPCPT</td>
<td>PAPKPT</td>
</tr>
<tr>
<td>Conventional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SurePath</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ThinPrep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Form</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAPCPT, PAPKPT, PAPMPT, PAPLPT, and PAPJPT prepare pathologists and cytotechnologists to succeed by providing ongoing diagnostic learning in gynecologic cytopathology.

Ordering Information

You will receive one shipment for proficiency testing (10 slides) and two additional shipments for your education (five slides each).

Follow these steps to order your PAP Proficiency Testing and PAP Education:

1. Choose the following:
   a. Slide type program code (refer to table above)
   b. PAP Education series shipment dates (choose one)
      • Series 1
         o A mailing ships February
         o B mailing ships August
      • Series 2
         o A mailing ships May
         o B mailing ships November
   c. Add the PAP Education series number after the slide type program code (eg, PAPCPT1, PAPCPT2).

2. Order one Individual Participant Response Form code for each participating pathologist/cytotechnologist. Also include the PAP Education Series number after the program code (eg, APAPCPT1).

3. Select primary testing session option with two alternative date options using the Gynecologic Cytology Proficiency Testing Order Details Form.

4. PPTENR is required by CMS as verification that personnel required to participate in PAP PT under its CLIA number are taking the examination at another laboratory.

Additional Information

- Participants will receive an evaluation via email shortly after submitting results online.
- The PAP Education component meets the CAP Laboratory Accreditation Program requirement for participation in a peer educational program.
### Cytopathology Glass Slide Education Program

**PAPCE, PARJE, PAPKE, PAPLE, PAPME Series 1 or 2**

<table>
<thead>
<tr>
<th>Slide Type</th>
<th>Program Code</th>
<th>Education Challenges per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>PAPCE PAPKE PAPME PAPLE PAPJE</td>
<td>10</td>
</tr>
<tr>
<td>SurePath</td>
<td>PAPCE PAPKE PAPME PAPLE PAPJE</td>
<td>10</td>
</tr>
<tr>
<td>ThinPrep</td>
<td>PAPCE PAPKE PAPME PAPLE PAPJE</td>
<td>10</td>
</tr>
<tr>
<td>Individual</td>
<td>APAPCE APAPKE APAPME APAPLE APAPJE</td>
<td>10</td>
</tr>
<tr>
<td>Participant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Form</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PAPCE, PAPKE, PAPME, PAPLE, and PARJE prepare pathologists and cytotechnologists to succeed by providing ongoing diagnostic learning in cytopathology.

**Ordering Information**

Follow these steps to order your PAP Education:

1. Choose the following:
   a. Slide type program code (refer to table above)
   b. PAP Education series shipment dates (choose one)
      • Series 1
         ▪ A mailing ships February
         ▪ B mailing ships August
      • Series 2
         ▪ A mailing ships May
         ▪ B mailing ships November
   c. Add the PAP Education series number after the slide type program code (eg, PAPCE1, PAPCE2).

2. Order one Individual Participant Response Form code for each participating pathologist/cytotechnologist. Also include the PAP Education series number after the program code (eg, APAPCE1).

**Additional Information**

- Participants will receive an evaluation via email shortly after submitting results online.
- The PAP Education component meets the CAP Laboratory Accreditation Program requirement for participation in a peer educational program.
Cytopathology

Gynecologic Cytology Outcomes: Biopsy Correlation Performance  QT5

The correlation of cervicovaginal cytology (Pap test) findings with cervical biopsy results is a significant part of the cytopathology laboratory’s quality assurance program. By monitoring this correlation, the laboratory can identify and address potential problems requiring improvement, thereby ensuring better patient results. This study helps laboratories meet CAP Laboratory Accreditation Program Cytopathology Checklist statements CYP.01900, CYP.07543, and CYP.07600 on cytologic/histologic correlation, and The Joint Commission Standard QSA.08.06.03: The cytology laboratory has a process to correlate cytologic interpretations with the corresponding histologic finding.

Objective
Quantify the correlation between the findings of cervicovaginal cytology and corresponding histologic material.

Data Collection
On a monthly basis, participants will record the number of true-positive, false-positive, and false-negative cytology-biopsy correlations. The false-negative correlations will be classified into four error categories: screening errors, interpretive errors, screening and interpretive errors, and adequacy determination errors. Participants will also record the biopsy diagnoses for Pap tests with an interpretation of atypical squamous cells (ASC-US and ASC-H) or atypical glandular cells (AGC). This monitor includes cervical biopsy specimens submitted to the laboratory that have a corresponding satisfactory or satisfactory but limited Pap test within three months of the biopsy.

Performance Indicators
- Predictive value of positive cytology (%)
- Sensitivity (%)
- Screening/interpretation sensitivity (%)
- Sampling sensitivity (%)
- Percent positive for ASC-US interpretations
- Percent positive for ASC-H interpretations
- Percent positive for AGC interpretations

Look in e-LAB Solutions Suite for your input forms approximately two weeks before the start of the next quarter.
Human Papillomavirus (High Risk) for Cytopathology

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV</td>
<td>ChPVd CHPVM</td>
<td>CHPVkJ</td>
</tr>
<tr>
<td>High-risk HPV genotyping (optional)</td>
<td>ChPVd CHPVM</td>
<td>CHPVkJ</td>
</tr>
</tbody>
</table>

Additional Information

- Each laboratory should choose the program that best reflects the transport media received in its facility. For program ChPVkJ, participants must provide results for all three media types. If your laboratory receives two types of media, order the programs that are appropriate for your specific laboratory (CHPVD, CHPVM, or CHPVK).
- For laboratories that perform HPV genotyping using ThinPrep PreservCyt or SurePath Preservative Fluid transport mediums on site, programs CHPVM, CHPVK and select CHPVkJ specimens provide an opportunity to report specific HPV genotypes.
- The CAP does not report genotyping responses to the CMS.

Program Information

- Five simulated cervical specimens
- CHPVD - Digene® Specimen Transport Medium™ (STM)
- CHPVM - ThinPrep PreservCyt® transport medium
- CHPVK - SurePath Preservative Fluid transport medium and corresponding vial of diluent
- CHPVJ - Combination of Digene, ThinPrep PreservCyt, and SurePath transport mediums
- Three shipments per year

Simplify Cancer Reporting for You and Your Patients.

Ensure complete and accurate diagnostic cancer reporting and best outcomes for your patients with CAP’s cancer reporting tools that make your life simpler with a workflow friendly interface, streamlined reporting process, and standardized quality checks. CAP electronic Cancer Protocols tools:

- Integrate into your LIS reporting workflow
- Facilitate compliance with accreditation standards
- Ensure data fidelity for quality analytics and public health

Visit cap.org and search “Cancer Protocols” or contact us directly at cprotoc@cap.org.
Touch Imprint/Crush Preparation  TICP/TICP1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online slide and image program in rapid assessment case review</td>
<td>TICP/TICP1</td>
<td>4</td>
</tr>
</tbody>
</table>

Additional Information

• The TICP program gets surgical pathologists, cytopathologists, and cytotechnologists ready to succeed by familiarizing them with the cytomorphologic features of pathologic processes and tumors in touch imprints and crush or scrape preparations. These specimens are prepared either for intraoperative consultation (frozen section) or rapid on-site evaluation (ROSE) of tissue biopsies for adequacy and/or interpretation. Participants will learn to make an immediate adequacy assessment, assign the process to a general category, and triage the specimen to appropriate ancillary studies. Participants will review digital whole slides of the TICP preparations (hematoxylin & eosin, modified Wright-Giemsa, and/or Papanicolaou stains), static images of the preparation and ancillary studies, and clinical history/radiographic findings to reach a diagnosis. Each case has a complete description of entities in the differential diagnosis along with a discussion of the correct interpretation.

• Participants will receive immediate feedback on interpretations, ancillary studies, and case-related adequate assessment.

• The cases will focus on TICP lymph node and miscellaneous tumors.

• May include rarely captured cases that may not be available on the glass slide.

• See system requirements on page 13.

Program Information

• TICP - Four online assessment challenges with clinical history; TICP provides CME or CE credit for one pathologist or cytotechnologist; for each additional pathologist or cytotechnologist, order TICP1

• TICP1 - Reporting option with CME or CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with program TICP

• Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits) per pathologist and a maximum of 10 CE credits per cytotechnologist for completion of an entire year

• This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)

• Online, whole slide images powered by DigitalScope technology

• Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
## Nongynecologic Cytopathology Education Program  NGC/NGC1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nongynecologic cytopathology case review – glass slides</td>
<td>NGC</td>
<td>5</td>
</tr>
<tr>
<td>Nongynecologic cytopathology case review – online</td>
<td>NGC1</td>
<td>5 per year</td>
</tr>
</tbody>
</table>

### Additional Information
- Designed to help pathologists and cytotechnologists get ready to succeed, the Nongynecologic Cytopathology Education (NGC) Program is an interlaboratory educational opportunity to assess participants’ screening and interpretive skills. The NGC program is unsuitable for proficiency testing as these cases are chosen for their educational value. Cases may incorporate static online images that incorporate radiology and multiple aspects of pathology to enhance the interpretation.
- Participants will receive an evaluation via email shortly after submitting results online.
- Additional online advanced education cases provide immediate feedback on interpretation selection, follow-up recommendations, and case-related educational questions.
- See system requirements on page 13.

### Program Information
- **NGC** - Five glass slides; five online advanced education cases; one laboratory response form and two individual response forms
- **NGC1** - Reporting option with CME or CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with program NGC
- Earn a maximum of 25 CME credits (AMA PRA Category 1 Credit) per pathologist and a maximum of 25 CE credits per cytotechnologist for completing the glass slides and online cases
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Online, whole slide images powered by DigitalScope technology
- Four shipments per year
Digital Slide Program in Fine-Needle Aspiration
FNA/FNA1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online program in fine-needle</td>
<td>FNA/FNA1</td>
<td>5</td>
</tr>
<tr>
<td>aspiration case review</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional Information
- The FNA program gets pathologists and cytotechnologists ready to succeed by focusing on fine-needle aspiration diagnostic dilemmas in practice. Online cases, which consist of whole slide images and static images, provide immediate feedback on interpretation selection, ancillary studies selection, and case-related educational questions.
- Cases will focus on FNA of salivary gland and spindle cell pattern topics.
- May include rarely captured cases that may not be available on the glass slide.
- See system requirements on page 13.

Program Information
- FNA - Five online diagnostic challenges; FNA provides CME or CE credit for one pathologist or cytotechnologist; for each additional pathologist or cytotechnologist, order FNA1
- FNA1 - Reporting option with CME or CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with program FNA
- Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits) per pathologist and a maximum of 10 CE credits per cytotechnologist
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Online, whole slide images powered by DigitalScope technology
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available
## Fine-Needle Aspiration Glass Slide  FNAG/FNAG1

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine-needle aspiration glass slide case review</td>
<td>FNAG/FNAG1</td>
<td>5</td>
</tr>
</tbody>
</table>

### Additional Information

- The Fine-Needle Aspiration Glass Slide Education program gets pathologists and cytotechnologists ready to succeed through an interlaboratory educational opportunity to assess participants' screening and interpretive skills. FNAG cases may include more than one slide of varying stains and/or preparations used on fine-needle aspirations.
- Cases may include static online images that incorporate radiology and multiple aspects of pathology to support the interpretation.
- Participants will receive an evaluation via email shortly after submitting results online.

### Program Information

- FNAG - Five cases consisting of glass slides and selected online images, representing a variety of conditions; one laboratory response form and two individual response forms.
- FNAG1 - Reporting option with CME or CE credit for each additional pathologist/cytotechnologist (within the same institution); must order in conjunction with program FNAG.
- Earn a maximum of 10 CME credits (AMA PRA Category 1 Credits) per pathologist and a maximum of 10 CE credits per cytotechnologist.
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP).
- Two shipments per year.
Benefit from the support of experts in laboratory medicine.

These experts spend countless hours monitoring testing trends to:

• Determine specimen specifications for PT programs to challenge participants.

• Keep our offerings contemporary with new analytes and programs.

• Provide peer-reviewed continuing medical education, continuing education, and self-assessment modules.
Forensic Sciences

Analytes/procedures in bold type are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forensic pathology cases</td>
<td>FR/FR1</td>
<td>5</td>
</tr>
</tbody>
</table>

Additional Information

- Cases may include or reflect anthropologic materials, ballistics, dental identification, DNA identification, environmental pathology, forensic evidence, injury pattern, medicolegal issues, toxicology, and trace evidence.
- FR/FR1 prepares hospital-based pathologists, forensic pathologists, residents, fellows, and medical examiners/coroners for success by keeping them current in forensic pathology techniques and practices. This educational program is also designed for investigators, analysts, and technicians/technologists.

Program Information

- FR - Online activity containing five case studies illustrating gross and/or microscopic slides and questions related to medicolegal decision making; CME or CE credit is available for one pathologist or investigator. For each additional pathologist or investigator, order FR1
- FR1 - Additional pathologist or investigator (within the same institution) reporting option with CME or CE credit; must order in conjunction with program FR
- Includes option to download program content
- Earn a maximum of 12.5 CME credits (AMA PRA Category 1 Credits™) per pathologist and a maximum of 12.5 CE credits per investigator for completion of an entire year
- This activity meets the ABPath CC requirements for Improvement in Medical Practice (IMP)
- Two online activities per year; your CAP shipping contact will be notified via email when the activity is available

This book is a practical guide to directing hospital toxicology laboratory operations. This edition features expanded sections on testing in the clinical setting, methodologies, and more user-friendly information on specific analytes. It provides the reader with a comprehensive view of what is needed—and expected—when offering a clinical toxicology service.

Contents include:
- Toxicology testing in the clinical setting, including new chapters on pediatric testing and chronic opioid therapy
- Toxicokinetics and methodologies, with new and expanded information on laboratory-developed tests, screening assays, targeted tests, and oral fluids and alternative matrices
- Specific analytes, including novel psychoactive substances and the use of medical cannabis
- Appendices on such useful topics as urine and serum screens, therapeutic drug monitoring, and proficiency testing

Add it to your order.

Or, view sample pages and purchase online:
- printed books at estore.cap.org
- ebooks at ebooks.cap.org

Program Information
- Three 5.0-mL synthetic vitreous fluid specimens
- For forensic and other toxicology laboratories that perform quantitative analysis of vitreous fluid
- Conventional and International System of Units (SI) reporting offered
- Two shipments per year

Vitreous Fluid, Postmortem VF

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>VF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetone</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Chloride</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Creatinine</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Ethanol</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Glucose</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Potassium</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Sodium</td>
<td>VF</td>
<td>3</td>
</tr>
<tr>
<td>Vitreous urea nitrogen</td>
<td>VF</td>
<td>3</td>
</tr>
</tbody>
</table>
Forensic Toxicology, Criminalistics FTC

<table>
<thead>
<tr>
<th>Analyte</th>
<th>Program Code</th>
<th>Challenges per Shipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See drug listing below

### Program Information
- Five 20.0-mL whole blood specimens
- For crime and hospital laboratories that have forensic toxicology divisions performing qualitative and quantitative analysis of drugs in whole blood specimens
- Three shipments per year

#### FTC Program Drug Listing
Challenges will include a mix of drugs from the list below.

6-acetylmorphine (6-AM)  
7-aminoacolazepam  
7-aminoflunitrazepam  
7-hydroxymitragynine  
Acetaminophen  
Alpha-hydroxyalprazolam  
Alprazolam  
Amitriptyline  
Amphetamine  
Aripiprazole  
Atenolol  
Atropine  
Benzoylconine  
Brompheniramine  
Buprenorphine  
Bupropion  
Butalbital  
Carbamazepine  
Carbamazepine-10, 11-epoxide  
Carisoprodol  
Chlordiazepoxide  
Chlorpheniramine  
Citalopram  
Clomipramine  
Clonazepam  
Clozapine  
Cocaethylene  
Codeine  
Cyclobenzaprine*  
Delta-9-THC  
Delta-9-THC-COOH  
Demoxepam  
Desipramine  
Desmethylclozapine  
Desmethylsertraline  
Dextromethorphan  
Diazepam  
Dihydrocodeine  
Diltiazem  
Diphenhydramine  
Doxepin  
Doxylamine  
Duloxetine  
Ecgonine ethyl ester  
Ecgonine methyl ester  
Ephedrine  
Fentanyl*  
Flunitrazepam  
Flurazepam  
Flurazepam  
Gamma-hydroxybutyrate (GHB)  
Hydrocodone  
Hydromorphone  
Hydroxybupropion  
Hydroxycodeine  
Ibuprofen  
Imipramine  
Ketamine  
Lamotrigine  
Levetiracetam  
Lidocaine  
Lorazepam  
Lysergic acid diethylamide (LSD)  
Meperidine*  
Mephenedrone  
Meprobamate  
Methadone  
Methadone metabolite (EDDP)  
Methamphetamine  
Methylenedioxyamphetamine (MDA)  
Methylenedioxyamphetamine (MDMA)  
Methylenedioxypyrvalerone (MDPV)  
Methylphenidate  
Metoprolol  
Midazolam  
Mirtazapine  
Mitragynine (Kratom)  
Morphine*  
N-desmethytramadol  
Naproxen  
Norbuprenorphine  
Norcodeine  
Nordiazepam  
Nordoxepin  
Norfenbutyl  
Norfluoxetine  
Norketamine  
Normeperidine  
Noroxycodone  
Norpropoxyphene  
Norsertraline  
Nortrimipramine  
Oxazepam  
Oxycodone  
Oxymorphone  
Paroxetine  
Pentobarbital  
Phencyclidine  
Phenethylamine  
Pheniramine  
Phenobarbital  
Phentermine  
Phenylephrine  
Phenytoin  
Pregabalin  
Propoxyphene  
Propranolol  
Pseudoephedrine  
Quetiapine  
Quinine  
Ranitidine  
Ritalinic acid  
Salicylate  
Sertraline  
Strychnine  
Tapentadol  
Temazepam  
Topiramate  
Tramadol  
Trazodone  
Trimipramine  
Valproic acid  
Venlafaxine  
Verapamil  
Zolpidem

*and/or metabolite(s)
Performance Analytics Dashboard provides valuable insights into your laboratory’s performance. The complimentary dashboard helps you manage your CAP PT and accreditation performance.

- Access all graded proficiency testing result forms, evaluations, and participant summary reports from one centralized location.
- Benchmark your laboratory against your peers and CAP-wide performance.
- Consolidate multiple CAP numbers to view a single dashboard for an entire system.
The following Analyte/Procedure Index is a comprehensive listing of analytes and corresponding CAP program options. Analytes/procedures in bold type whose corresponding program codes are bold are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS).

Laboratories must perform five challenges three times per year (as noted by boldface) for analytes that are regulated by the CMS. The X in the LAP ENR column denotes the CAP programs that can be used to fulfill the proficiency testing enrollment requirements for CAP-accredited laboratories. Use this index to identify the correct PT programs that match up to your laboratory's activity menu to meet accreditation requirements. For international CAP-accredited laboratories, enrollment in CAP PT is required for all tests/activities if a program is available. Refer to program descriptions in this catalog to determine compatibility with your specific methodologies.

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,25-dihydroxy vitamin D</td>
<td>BMV1</td>
<td>Bone Markers and Vitamins</td>
<td></td>
<td>90</td>
</tr>
<tr>
<td>1,5-anhydroglucitol</td>
<td>AG</td>
<td>1,5-Anhydroglucitol</td>
<td></td>
<td>75</td>
</tr>
<tr>
<td>3-methoxytyramines</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>4-hydroxytriazolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td></td>
<td>113</td>
</tr>
<tr>
<td>5-hydroxyindoleacetic acid, qualitative</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>5-hydroxyindoleacetic acid, quantitative</td>
<td>X</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td>73</td>
</tr>
<tr>
<td>6-acetylmorphine (6-AM)</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td></td>
<td>112</td>
</tr>
<tr>
<td>7-aminoclonazepam</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td></td>
<td>109</td>
</tr>
<tr>
<td>7-hydroxymitragynine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td></td>
<td>109</td>
</tr>
<tr>
<td>7-aminoflunitrazepam</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td></td>
<td>109</td>
</tr>
<tr>
<td>11-deoxycortisol</td>
<td>Y/YY</td>
<td>Sex Hormones</td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>11-hydroxy-THC</td>
<td>THCB</td>
<td>Blood Cannabinoids</td>
<td></td>
<td>111</td>
</tr>
<tr>
<td>17-hydroxycorticosteroids</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td></td>
<td>73</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>X</td>
<td>CZ/CZ/X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>Acetone</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td></td>
<td>106</td>
</tr>
</tbody>
</table>

The following Analyte/Procedure Index is a comprehensive listing of analytes and corresponding CAP program options. Analytes/procedures in bold type whose corresponding program codes are bold are regulated for proficiency testing by the Centers for Medicare & Medicaid Services (CMS). Laboratories must perform five challenges three times per year (as noted by boldface) for analytes that are regulated by the CMS. The X in the LAP ENR column denotes the CAP programs that can be used to fulfill the proficiency testing enrollment requirements for CAP-accredited laboratories. Use this index to identify the correct PT programs that match up to your laboratory's activity menu to meet accreditation requirements. For international CAP-accredited laboratories, enrollment in CAP PT is required for all tests/activities if a program is available. Refer to program descriptions in this catalog to determine compatibility with your specific methodologies.

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-hydroxyprogesterone</td>
<td>YYY</td>
<td>Sex Hormones</td>
<td></td>
<td>88</td>
</tr>
<tr>
<td>17-ketosteroids</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td></td>
<td>73</td>
</tr>
<tr>
<td>25-OH vitamin D, total</td>
<td>ABVD</td>
<td>Accuracy-Based Vitamin D</td>
<td></td>
<td>116</td>
</tr>
<tr>
<td>17-hydroxyprogesterone</td>
<td>X</td>
<td>VITD</td>
<td>25-OH Vitamin D</td>
<td>88</td>
</tr>
<tr>
<td>50:50 mixing study, aPTT</td>
<td>CGE/CGEX</td>
<td>Coagulation, Extended</td>
<td></td>
<td>165</td>
</tr>
<tr>
<td>50:50 mixing study, PT</td>
<td>CGE/CGEX</td>
<td>Coagulation, Extended</td>
<td></td>
<td>165</td>
</tr>
<tr>
<td>ABO grouping</td>
<td>J, J1</td>
<td>Transfusion Medicine</td>
<td></td>
<td>230</td>
</tr>
<tr>
<td>ABO subgroup typing</td>
<td>ABOSG</td>
<td>ABO Subgroup Typing</td>
<td></td>
<td>234</td>
</tr>
<tr>
<td>Acetaminophen</td>
<td>CZ/CZ/X, Z</td>
<td>Chemistry and TDM</td>
<td></td>
<td>58–60</td>
</tr>
<tr>
<td>Acetone</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>Acetone</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>Acetone</td>
<td>SDS</td>
<td>Serum Drug Screen</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>Acetone</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Acid phosphatase</td>
<td>C3/C3X, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Adenovirus</td>
<td>VR4</td>
<td>Viral Antigen by EIA and Latex</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Acid-fast smear</td>
<td>E</td>
<td>Mycobacteriology</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>Acid-fast smear</td>
<td>E1</td>
<td>Mycobacteriology, Ltd</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>Adenovirus 40/41</td>
<td>SP, SPN</td>
<td>Stool Pathogen</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Adrenocorticotropic hormone (ACTH)</td>
<td>TM/TMX</td>
<td>Tumor Markers</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Adenocorticotropic hormone (ACTH)</td>
<td>TM/TMX</td>
<td>Tumor Markers</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Alanine, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Alanine amionotransferase (ALT/SGPT)</td>
<td>C1, C3/C3X, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Adjustible micropipette cal ver/lin</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>Activated clotting time</td>
<td>CT, CT1, CT2, CT3, CT5</td>
<td>ACT</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Activated clotting time</td>
<td>CTQ, CT1Q, CT2Q, CT3Q, CT5Q</td>
<td>Quality Cross Check, ACT</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>APXBN Anticoagulant Monitoring, Apixaban</td>
<td>168</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGB</td>
<td>Basic Coagulation</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGL</td>
<td>Coagulation, Limited</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGLQ</td>
<td>Quality Cross Check, Coagulation, Limited</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGS1 Coag Special, Series 1</td>
<td>167</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGS3 Coag Special, Series 3</td>
<td>167</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>CGS4 Coag Special, Series 4</td>
<td>167</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>DBGN</td>
<td>Anticoagulant Monitoring, Dabigatran</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Activated partial thromboplastin time</td>
<td>FNPX</td>
<td>Anticoagulant Monitoring, Fondaparinux</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Active vitamin B12</td>
<td>MMA</td>
<td>MMA and Active Vitamin B12</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Alcohol, serum</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Alcohol, serum</td>
<td>LN11</td>
<td>Serum Ethanol Cal Ver/Lin</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td>Alcohol, serum</td>
<td>MN1</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
</tbody>
</table>

---

**Notes:**
- **LAP ENR:** Analyte/Procedure Code
- **Program Code:** Program Code for specific tests
- **Description:** Description of the test or procedure
- **Page:** Page number where the test or procedure is described
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol, whole blood</td>
<td>X</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
</tr>
<tr>
<td>Aldolase</td>
<td>ADL</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aldosterone, serum</td>
<td>X</td>
<td>RAP</td>
<td>Renin and Aldosterone</td>
<td>93</td>
</tr>
<tr>
<td>Aldosterone, urine</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Alkaline phosphatase (ALP)</td>
<td>X</td>
<td>C1, C3/C3X, C2/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>Ammonia</td>
<td>C2/C3X, C2/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Alpha-1 antitrypsin</td>
<td>IG/GX</td>
<td>Immunology, General</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td>Alpha-1 antitrypsin genotyping (SERPINA1) gene</td>
<td>X</td>
<td>AAT</td>
<td>Alpha-1 Antitrypsin Genotyping</td>
<td>259</td>
</tr>
<tr>
<td>Alpha-1 globulin</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Alpha-2 antiplasmin</td>
<td>CGE/CGX</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Alpha-2-macroglobulin</td>
<td>A2MG</td>
<td>Alpha-2-Macroglobulin</td>
<td>218</td>
<td></td>
</tr>
<tr>
<td>Alpha-fetoprotein (AFP), amniotic fluid</td>
<td>X</td>
<td>FP/FPX</td>
<td>Maternal Screen</td>
<td>91</td>
</tr>
<tr>
<td>Alpha-fetoprotein (AFP), serum</td>
<td>X</td>
<td>FP/FPX</td>
<td>Maternal Screen</td>
<td>91</td>
</tr>
<tr>
<td>Alpha-hydroxyalprazolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Alprazolam</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>X</td>
<td>R</td>
<td>Trace Metals</td>
<td>82</td>
</tr>
<tr>
<td>Aluminum, urine</td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Aluminum, whole blood</td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Amikacin</td>
<td>X</td>
<td>CZ/CZX/CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>Ammonia</td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Amino acids, qualitative</td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Amino acids, qualitative</td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Amitriptyline</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Ammonia fluid leakage (nitrazine)</td>
<td>AFL</td>
<td>Ammonia Fluid Leakage</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>Amobarbital</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Amphetamine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>Anamniotic fluid leakage (nitrazine)</td>
<td>AFL</td>
<td>Amniotic Fluid Leakage</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>Alprazolam</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UTCO</td>
<td>Urine Toxicology Carryover</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP/ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Amphetamine group (cont.)</td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Amylase</td>
<td>X</td>
<td>C1,C3,C3X, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLDR</td>
<td>Body Fluid</td>
<td>76</td>
<td></td>
</tr>
<tr>
<td>Antibody detection (cont.)</td>
<td>X</td>
<td>MXC, MXE</td>
<td>HLA Analysis, Class I/II</td>
<td>237</td>
</tr>
<tr>
<td>Antibody identification</td>
<td>X</td>
<td>J, JAT</td>
<td>Transfusion Medicine</td>
<td>241</td>
</tr>
<tr>
<td>Antibody titer</td>
<td>AABT, AABT1, AABT2, AABT3</td>
<td>Antibody Titer, Automated</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Antibody titer, automated</td>
<td>AABT, AABT1, AABT2, AABT3</td>
<td>Antibody Titer, Automated</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Anticardiolipin IgA, qualitative</td>
<td>ACL, APS</td>
<td>Antiphospholipid Antibody</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td>Anticardiolipin IgA, quantitative</td>
<td>ACL, APS</td>
<td>Antiphospholipid Antibody</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td>Anticardiolipin IgG, IgM, polyclonal; qualitative</td>
<td>ACL, APS</td>
<td>Antiphospholipid Antibody</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td>Anticardiolipin IgG, IgM, polyclonal; quantitative</td>
<td>ACL, APS</td>
<td>Antiphospholipid Antibody</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td>Anti-CCP</td>
<td>CCP</td>
<td>Cyclic Citrullinated Peptide Antibody</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Anticentromere antibody</td>
<td>S2</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td>Anti-Chromatin antibody</td>
<td>ACA</td>
<td>Anti-Chromatin Antibody</td>
<td>218</td>
<td></td>
</tr>
<tr>
<td>Anti-CMV, IgG, IgM</td>
<td>VR3</td>
<td>Infectious Disease Serology</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Anti-CMV, total</td>
<td>VM3</td>
<td>Viral Markers–Series 3</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-D, total</td>
<td>AABT, AABT2</td>
<td>Antibody Titer, Automated</td>
<td>235</td>
<td></td>
</tr>
<tr>
<td>Antibody detection</td>
<td>X</td>
<td>J, JAT</td>
<td>Transfusion Medicine</td>
<td>230–231</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>X</td>
<td>JATE1</td>
<td>Transfusion Medicine, Automated, Educational</td>
<td>231</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>X</td>
<td>JATQ</td>
<td>Quality Cross Check, Transfusion Medicine</td>
<td>51</td>
</tr>
<tr>
<td>Antibody detection</td>
<td>X</td>
<td>PS</td>
<td>Platelet Serology</td>
<td>237</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>------</td>
<td>-------</td>
<td>--------------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide antibody, IgG; qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide antibody, IgA, IgG; quantitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td>Antideamidated gliadin peptide/tissue transglutaminase antibody screen (IgA, IgG)</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td>Antidendymosal antibody IgA, IgG; qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td>Antidendymosal antibody IgA, IgG; quantitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td>Antifilamentous actin IgG antibody</td>
<td>FCN</td>
<td>FCN</td>
<td>Antifilamentous Actin Antibody</td>
<td>218</td>
</tr>
<tr>
<td>Antifungal drugs monitoring</td>
<td>AFD</td>
<td>AFD</td>
<td>Antifungal Drugs Monitoring</td>
<td>111</td>
</tr>
<tr>
<td>Antifungal susceptibility testing</td>
<td>X F</td>
<td>X F</td>
<td>Mycology and Aerobic Actinomycetes</td>
<td>195</td>
</tr>
<tr>
<td>Antigen detection, bacterial</td>
<td>CDF2</td>
<td>CDF5</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
</tr>
<tr>
<td>Antiglomerular basement membrane, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antiglomerular basement membrane, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Anti-HAV, IgG</td>
<td>VM1</td>
<td>VM1</td>
<td>Viral Markers–Series 1</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-HAV, IgM</td>
<td>VM5</td>
<td>VM5</td>
<td>Viral Markers–Series 5</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Anti-HAV, total</td>
<td>VM1</td>
<td>VM1</td>
<td>Viral Markers–Series 1</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-HBC, IgM</td>
<td>VM5</td>
<td>VM5</td>
<td>Viral Markers–Series 5</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Anti-HBC, total</td>
<td>VM1</td>
<td>VM1</td>
<td>Viral Markers–Series 1</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-HBe, qualitative</td>
<td>VM1</td>
<td>VM1</td>
<td>Viral Markers–Series 1</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-HBs, qualitative</td>
<td>VM1</td>
<td>VM1</td>
<td>Viral Markers–Series 1</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-HIV-1</td>
<td>AHIV</td>
<td>AHIV</td>
<td>Anti-HIV Rapid Methods</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Anti-HIV-2</td>
<td>AHIV</td>
<td>AHIV</td>
<td>Anti-HIV Rapid Methods</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Anti-HTLV-1/II</td>
<td>VM3</td>
<td>VM3</td>
<td>Viral Markers–Series 3</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Anti-intrinsic factor antibody</td>
<td>APC3</td>
<td>APC3</td>
<td>Autoimmune Gastritis Markers</td>
<td>218</td>
<td></td>
</tr>
<tr>
<td>Anti-Jo-1 (antithistidyl t-RNA synthetase)</td>
<td>RDS</td>
<td>RDS</td>
<td>Rheumatic Disease Special Serologies</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>Anti-LKM</td>
<td>LKM</td>
<td>LKM</td>
<td>Liver-Kidney Microsomal Antibody</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>Antimicrobial susceptibility testing</td>
<td>X D</td>
<td>X D</td>
<td>Bacteriology</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>Antiglomerular basement membrane, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antilipid antibody IgA, IgG, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antilipid antibody IgA, IgG, quantitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antimycobacterial susceptibility testing</td>
<td>X E</td>
<td>X E</td>
<td>Mycobacteriology</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>Antigliadin antibody IgA, IgG, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antigliadin antibody IgA, IgG, quantitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antilipid antibody IgA, IgG, quantitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antilipid antibody IgA, IgG, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antigliadin antibody IgA, IgG, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antigliadin antibody IgA, IgG, quantitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Antigliadin antibody IgA, IgG, qualitative</td>
<td>CES/CESX</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td><strong>Antimycobacterial susceptibility testing (cont.)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MTBR</td>
<td></td>
<td></td>
<td>Molecular MTB Detection and Resistance</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>MTR5</td>
<td></td>
<td></td>
<td>Molecular MTB Detection and Resistance</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td><strong>Antineutrophil cytoplasmic antibody (ANCA)</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Antinuclear antibody (ANA), qualitative</strong></td>
<td>X</td>
<td>ANA IL</td>
<td>Immunology</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td><strong>Antinuclear antibody (ANA), quantitative</strong></td>
<td>X</td>
<td>ANA IL</td>
<td>Immunology</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td><strong>Antiparietal cell antibody</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antiphospholipid antibody</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antiphospholipid antibodies (IgG, IgM, and IgA)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antiphospholipid/ prothrombin complex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antiphospholipid Antibodies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antipr3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antiribosomal P antibody</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Anti-RNP antibody, qualitative</strong></td>
<td>X</td>
<td>S2</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-RNP antibody, quantitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Ro52 antibodies</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Ro60 antibodies</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Saccharomyces cerevisiae antibody</strong></td>
<td>ASC</td>
<td></td>
<td>Anti-Saccharomyces cerevisiae Antibody</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Scl-70 (anti-DNA topoisomerase)</strong></td>
<td>RDS</td>
<td></td>
<td>Rheumatic Disease Special Serologies</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Sm antibody, qualitative</strong></td>
<td>X</td>
<td>S2</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Sm antibody, quantitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-Sm/RNP antibody, qualitative</strong></td>
<td>X</td>
<td>S2</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Antisperm antibody (IgG)</strong></td>
<td>ASA</td>
<td></td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-SSA antibody, qualitative</strong></td>
<td>X</td>
<td>S2</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-SSA antibody, quantitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-SSA/SSB antibody, qualitative</strong></td>
<td>X</td>
<td>S2</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td><strong>Anti-SSA/SSB antibody, quantitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
<td></td>
</tr>
</tbody>
</table>

**Analyte/Procedure Index**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antithrombin (activity, Ag)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antistreptolysin O (ASO), qualitative</strong></td>
<td>X</td>
<td>ASO IL</td>
<td>Immunology</td>
<td>216</td>
</tr>
<tr>
<td><strong>Antistreptolysin O (ASO), quantitative</strong></td>
<td>X</td>
<td>ASO IL</td>
<td>Immunology</td>
<td>216</td>
</tr>
<tr>
<td><strong>Antithyroglobulin antibody</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Antithyroglobulin antibody, qualitative</strong></td>
<td>X</td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td>217</td>
</tr>
<tr>
<td><strong>Antithyroglobulin antibody, quantitative</strong></td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Antithyroid microsomal, qualitative</strong></td>
<td>X</td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td>217</td>
</tr>
<tr>
<td><strong>Antithyroid microsomal, quantitative</strong></td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Antithyroid peroxidase, qualitative</strong></td>
<td>X</td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td>217</td>
</tr>
<tr>
<td><strong>Antithyroid peroxidase, quantitative</strong></td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Antitissue transglutaminase antibody IgA, qualitative</strong></td>
<td>X</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td><strong>Antitissue transglutaminase antibody IgG, quantitative</strong></td>
<td>X</td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td><strong>Antitissue transglutaminase antibody IgG, qualitative</strong></td>
<td></td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td><strong>Antitissue transglutaminase antibody IgG, qualitative</strong></td>
<td></td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
<tr>
<td><strong>Anti-Trypanosoma cruzi</strong></td>
<td>VM4</td>
<td>Viral Markers–Series 4</td>
<td></td>
<td>243</td>
</tr>
<tr>
<td><strong>Apoixaban</strong></td>
<td>APXBN</td>
<td></td>
<td>Anticoagulant Monitoring, Apixaban</td>
<td>168</td>
</tr>
<tr>
<td><strong>Apolipoprotein A1</strong></td>
<td>X</td>
<td>ABL</td>
<td>Accuracy-Based Lipids</td>
<td>116</td>
</tr>
<tr>
<td><strong>Apolipoprotein A1</strong></td>
<td>X</td>
<td>C3/C3X, C2X/C22X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td><strong>Apolipoprotein B</strong></td>
<td>X</td>
<td>ABL</td>
<td>Accuracy-Based Lipids</td>
<td>116</td>
</tr>
<tr>
<td><strong>Apolipoprotein B</strong></td>
<td>X</td>
<td>C3/C3X, C2X/C22X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td><strong>Apolipoprotein E (APOE) genotyping</strong></td>
<td>X</td>
<td>APOE</td>
<td>Apolipoprotein E (APOE) Genotyping</td>
<td>259</td>
</tr>
<tr>
<td><strong>Anti-SSA antibody, qualitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Anti-SSA antibody, quantitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Anti-SSA antibody, quantitative</strong></td>
<td>S2</td>
<td>Immunology, Special</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td><strong>Antitissue transglutaminase antibody IgG, qualitative</strong></td>
<td></td>
<td>CES/CESX</td>
<td>Celiac Serology</td>
<td>220</td>
</tr>
</tbody>
</table>

800-323-4040 | 847-832-7000 (Country code: 1) Option 1 | cap.org
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arginine, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Arsenic, urine</td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Arsenic, whole blood</td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Arthropod identification</td>
<td>TMO</td>
<td>Ticks, Mites, and Other Arthropods</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>Aspartate aminotransferase (AST/SGOT)</td>
<td>X</td>
<td>C1, C3/C3X, C2/CZX/CZX2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>Aspartic acid, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Aspirin assay</td>
<td>PIA/PIAX</td>
<td>Drug-Specific Platelet Aggregation</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Astrovirus</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Atenolol</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Atropine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Autopsy pathology</td>
<td>AUP/AUP1</td>
<td>Autopsy Pathology</td>
<td>301</td>
<td></td>
</tr>
<tr>
<td>B-ALL</td>
<td>BALL</td>
<td>B-ALL Minimal Residual Disease</td>
<td>226</td>
<td></td>
</tr>
<tr>
<td>B-type natriuretic peptides</td>
<td>X</td>
<td>BNP</td>
<td>B-Type Natriuretic Peptides, 2 Chall</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>BNP5</td>
<td>B-Type Natriuretic Peptides, 5 Chall</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BNPQ</td>
<td>Quality Cross Check, B-Type Natriuretic Peptides</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN30</td>
<td>B-Type Natriuretic Peptides Cal Ver/Lin</td>
<td>131</td>
</tr>
<tr>
<td>Babesia microti</td>
<td>TTD</td>
<td>Antibody Detection of Tick-Transmitted Diseases</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Bacterial antigen detection</td>
<td>CDF2</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CDF5</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D6</td>
<td>Rapid Group A Strep</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HC1</td>
<td>C. trachomatis by DFA</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HC3</td>
<td>C. trachomatis by EIA</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LBAS</td>
<td>Legionella pneumophila Antigen Detection</td>
<td>184</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MC4</td>
<td>Urine Colony Count Combination</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>RMC</td>
<td>Routine Microbiology Combination</td>
<td>180</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>V5</td>
<td>Vaginitis Screen</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SBAS</td>
<td>S. pneumoniae Antigen Detection</td>
<td>184</td>
</tr>
<tr>
<td>Bacterial detection in platelets</td>
<td>BDP, BDPV</td>
<td>Bacterial Detection, Platelets</td>
<td>240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>BDP5, BDPV5</td>
<td>Bacterial Detection, Platelets</td>
<td>240</td>
</tr>
<tr>
<td>Bacterial identification</td>
<td>BCM</td>
<td>Bacterial Blood Culture, Molecular</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D1, D2, D3, RMC</td>
<td>Throat, Urine, GC Cultures</td>
<td>179–180</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D8</td>
<td>Group B Strep</td>
<td>184</td>
</tr>
<tr>
<td></td>
<td>DEX</td>
<td>Expanded Bacteriology</td>
<td>178</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HC6/HC8X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
</tbody>
</table>
| Bacterial
identification (cont.) | X | HC7 | C. trachomatis/GC DNA by NAA | 192 |
<p>| | | IDME | Meningitis/Encephalitis Panel | 209 |
| | X | IDM5 | Meningitis/Encephalitis Panel | 209 |
| | X | IDR | Infectious Disease, Respiratory Panel | 210 |
| | | LPX | Laboratory Preparedness Exercise | 190 |
| | | MBT | Microbiology Bench Tools Competency | 178 |
| | X | MC4 | Urine Colony Count Combination | 181 |
| | | MRS | Methicillin-resistant Staphylococcus aureus Screen | 189 |
| | | MRS2M | MRSA Screen, Molecular, 2 Challenge | 189 |
| | X | MRS5 | Methicillin-resistant Staphylococcus aureus Screen | 189 |
| | X | MRS5M | MRSA Screen, Molecular, 5 Challenge | 189 |
| | X | RMC | Routine Microbiology Combination | 180 |
| Bacterial vaginosis screen | BV | Bacterial Vaginosis | 191 |
| | MVP | Molecular Vaginal Panel | 192 |
| | VS2 | Vaginitis Screen, Virtual Gram Stain | 193 |
| Bacteroides fragilis | JIP | Joint Infection Panel | 208 |
| BAP1 | PM5 | Immunohistochemistry TMA | 278 |
| Barbiturate group | DMPM | Drug Monitoring for Pain Management | 112 |
| | SDS | Serum Drug Screen | 106 |
| | T | Toxicology | 100 |
| | UDS, UDS6 | Urine Drug Screen | 102 |
| | UT | Urine Toxicology | 100 |
| BCR/ABL1 p190 | X | MOH2, MOH3 | Molecular Hematologic Oncology | 278 |
| BCR/ABL1 p210 | X | MOH2, MOH3 | Molecular Hematologic Oncology | 278 |
| | | MRD1 | Minimal Residual Disease | 279 |
| | | MRD | Minimal Residual Disease | 279 |
| Bence Jones protein | UBJP | Urine Bence Jones Protein | 80 |
| Benzodiazepine group | DMPM | Drug Monitoring for Pain Management | 112 |
| | OFD | Oral Fluid for Drugs of Abuse | 105 |
| | SDS | Serum Drug Screen | 106 |
| | | | | |</p>
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepine group (cont.)</td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Benzoylcgonine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UTCO</td>
<td>Urine Toxicology Carover</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Beta-1 globulin</td>
<td>SPE</td>
<td>Serum Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Beta-2 globulin</td>
<td>SPE</td>
<td>Serum Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Beta-2-glycoprotein I</td>
<td>ACL, APS</td>
<td>Antiphospholipid Antibody</td>
<td>219</td>
<td></td>
</tr>
<tr>
<td>Beta-2-microglobulin, serum</td>
<td>X</td>
<td>TM/TMX</td>
<td>Tumor Markers</td>
<td>93</td>
</tr>
<tr>
<td>Beta-2-microglobulin, urine</td>
<td>CD</td>
<td>Cadmium</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Beta-catenin</td>
<td>PM5</td>
<td>Immunohistochemistry TMA</td>
<td>295</td>
<td></td>
</tr>
<tr>
<td>Beta globulin</td>
<td>SPE</td>
<td>Serum Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Beta-hydroxybutyrate</td>
<td>X</td>
<td>KET</td>
<td>Ketones</td>
<td>68</td>
</tr>
<tr>
<td>Beta-thalassemia</td>
<td>HGM</td>
<td>Hemoglobinopathies, Molecular Methods</td>
<td>260</td>
<td></td>
</tr>
<tr>
<td>Bile crystal identification, photographs</td>
<td>BCR</td>
<td>Bile Crystals</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Bilirubin, confirmatory urine</td>
<td>DSC</td>
<td>Dipstick Confirmatory</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Bilirubin, direct</td>
<td>X</td>
<td>C1, C3/C3X, C4, C2/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CQZ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>NB, NB2</td>
<td>Neonatal Bilirubin</td>
<td>69</td>
</tr>
<tr>
<td>Bilirubin, total</td>
<td>X</td>
<td>C1, C3/C3X, C4, C2/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CQZ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Analyte/Procedure Index</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bilirubin, total (cont.)</strong></td>
<td>FLD2</td>
<td></td>
<td>Body Fluid Chemistry 2</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>IFS</td>
<td></td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td></td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td></td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>NB, NB2</td>
<td>Neonatal Bilirubin</td>
<td>69</td>
</tr>
<tr>
<td><strong>Bilirubin, urine</strong></td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bioavailable testosteron</strong></td>
<td>DY</td>
<td></td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td><strong>Biochemical genetics</strong></td>
<td>BGL, BGL1, BGL2</td>
<td>Biochemical Genetics</td>
<td>257–258</td>
<td></td>
</tr>
<tr>
<td><strong>Bioterrorism agents</strong></td>
<td>LPX</td>
<td></td>
<td>Laboratory Preparedness Exercise</td>
<td>190</td>
</tr>
<tr>
<td><strong>BKV virus</strong></td>
<td>ID1T</td>
<td>Nucleic Acid Amp, JC and BK</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VLS, VLS2</td>
<td>Viral Load</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td><strong>Blood cannabinoids</strong></td>
<td>THCB</td>
<td>Blood Cannabinoids</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td><strong>Blood cell identification</strong></td>
<td>EHE1</td>
<td>Expanded Virtual Periperal Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VPBS</td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td><strong>Blood cell identification</strong></td>
<td>X</td>
<td>BCP, BCP2</td>
<td>Blood Cell Identification</td>
<td>144</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HEP</td>
<td>Basic Hematology</td>
<td>140</td>
</tr>
<tr>
<td><strong>Blood culture</strong></td>
<td>X</td>
<td>BCS</td>
<td>Blood Culture</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>BCM</td>
<td>Bacterial Blood Culture, Molecular</td>
<td>185</td>
</tr>
<tr>
<td><strong>Blood culture</strong></td>
<td>X</td>
<td>BCS1</td>
<td>Blood Culture, Staphylococcus aureus</td>
<td>185</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td></td>
<td>YBC</td>
<td>Yeast Blood Culture, Molecular</td>
<td>196</td>
</tr>
<tr>
<td><strong>Blood culture, yeast, molecular</strong></td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td><strong>Blood or hemoglobin, urine</strong></td>
<td>X</td>
<td>BP</td>
<td>Blood Parasite</td>
<td>199</td>
</tr>
<tr>
<td><strong>Blood parasite</strong></td>
<td>X</td>
<td>P</td>
<td>Parasitology</td>
<td>198</td>
</tr>
<tr>
<td><strong>Blood parasite, rapid</strong></td>
<td></td>
<td>RMAL</td>
<td>Rapid Malaria</td>
<td>199</td>
</tr>
<tr>
<td><strong>Bloom syndrome (BLM gene)</strong></td>
<td>X</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td><strong>Bocaviruse</strong></td>
<td>X</td>
<td>IDR</td>
<td>Infectious Disease Respiratory Panel</td>
<td>210</td>
</tr>
<tr>
<td><strong>Body fluid</strong></td>
<td></td>
<td>ABF1, ABF2, ABF3</td>
<td>Automated Body Fluid</td>
<td>153</td>
</tr>
<tr>
<td><strong>Body fluid cell differential</strong></td>
<td>VBF</td>
<td>Virtual Body Fluid</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td><strong>Body fluid (cell count)</strong></td>
<td>X</td>
<td>HFC, HFCI</td>
<td>Hemocytometer Fluid Count</td>
<td>156</td>
</tr>
<tr>
<td><strong>Body fluid identification</strong></td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td><strong>Body fluid (chemistry)</strong></td>
<td>X</td>
<td>VBF</td>
<td>Virtual Body Fluid</td>
<td>154</td>
</tr>
<tr>
<td><strong>Bone marrow cell</strong></td>
<td>BMD</td>
<td>Bone Marrow Cell Differential</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td><strong>Bone marrow cell identification</strong></td>
<td>X</td>
<td>BMD</td>
<td>Bone Marrow Cell Differential</td>
<td>144</td>
</tr>
<tr>
<td><strong>Bone specific alkaline</strong></td>
<td>BMV2</td>
<td>Bone Markers and Vitamins</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>phospatase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bordetella holmesii</strong></td>
<td>X</td>
<td>IDR</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>210</td>
</tr>
<tr>
<td><strong>Bordetella parapertussis</strong></td>
<td>BOR</td>
<td>Bordetella pertussis/parapertussis, Molecular</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td><strong>Bordetella pertussis</strong></td>
<td>BOR</td>
<td>Bordetella pertussis/parapertussis, Molecular</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td><strong>Borrelia burgdorferi</strong></td>
<td>TTD</td>
<td>Antibody Detection of Tick-Transmitted Diseases</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BRAF</strong></td>
<td>X</td>
<td>BRAF</td>
<td>Mutation Testing</td>
<td>276</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td><strong>BRAF V600E</strong></td>
<td></td>
<td>BRAFV</td>
<td>BRAF V600E</td>
<td>298</td>
</tr>
<tr>
<td><strong>BRCA1/2</strong></td>
<td>X</td>
<td>MGL3</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BRCA1/2 duplication/deletion</strong></td>
<td>X</td>
<td>BRCA</td>
<td>BRCA1/2 Sequencing</td>
<td>259</td>
</tr>
<tr>
<td>analysis**</td>
<td></td>
<td>BRCA2</td>
<td>BRCA1/2 Sequencing</td>
<td>259</td>
</tr>
<tr>
<td><strong>Brain tissue by FISH</strong></td>
<td>CVJ</td>
<td>Fluorescence In Situ Hybrid and Interpretation on Site, Brain/Glioma Tissue</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brightfield in situ hybridization</strong></td>
<td>ISH2</td>
<td>In Situ Hybridization</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td><strong>Bromazepam</strong></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
</tbody>
</table>

---

**Analyte/Procedure Index**

**LAP ENR**

**Program Code**

**Description**

**Page**
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP Code</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brompheniramine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Bupropion</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Butalbital</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>C. difficile antigen</td>
<td>CDF2</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP, SPN</td>
<td>Stool Pathogens–Rapid and Molecular</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X CDF5</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X D</td>
<td>Bacteriology–Antigen Detection</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>C. difficile toxin</td>
<td>CDF2</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CDF5</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Bacteriology–Antigen Detection</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP, SPN</td>
<td>Stool Pathogens–Rapid and Molecular</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>C. difficile antigen</td>
<td>CA 15-3</td>
<td>Tumor Markers Cal Ver/Lin</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td>Calcium, urine</td>
<td>X TM/TMX</td>
<td>Tumor Markers</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>Cadmium, urine</td>
<td>X CD</td>
<td>Cadmium</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Cadmium, whole blood</td>
<td>X CD</td>
<td>Cadmium</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>X C1, C3/C3X, C4, C/Z/CZ/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>X AQ, AQ2, AQ3, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>X AQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>Quality Cross Check, Critical Care Aquous Blood Gas Series</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>X C3/C3X, C/Z/CZ/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>X C2X, CZX, CZ, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Calcium, ionized</td>
<td>X U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Campylobacter</td>
<td>CAMP</td>
<td>Campylobacter</td>
<td>187</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>--------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Canavan disease (ASPA gene)</td>
<td>X</td>
<td></td>
<td>MGL4</td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>Candida albicans</td>
<td>JIP</td>
<td></td>
<td></td>
<td>Joint Infection Panel</td>
</tr>
<tr>
<td><strong>Candida culture</strong></td>
<td>F3</td>
<td></td>
<td>Candida Culture</td>
<td></td>
</tr>
<tr>
<td>Candida glabrata vaginal, molecular</td>
<td>MVP</td>
<td></td>
<td>Molecular Vaginal Panel</td>
<td></td>
</tr>
<tr>
<td><strong>Candida krusei/ vaginal, molecular</strong></td>
<td>MVP</td>
<td></td>
<td>Molecular Vaginal Panel</td>
<td></td>
</tr>
<tr>
<td><strong>Candida sp., DNA probe</strong></td>
<td>VS</td>
<td></td>
<td>Vaginitis Screen</td>
<td></td>
</tr>
<tr>
<td><strong>Candida sp. group, vaginal, molecular</strong></td>
<td>MVP</td>
<td></td>
<td>Molecular Vaginal Panel</td>
<td></td>
</tr>
<tr>
<td>Cannabinoids</td>
<td></td>
<td></td>
<td></td>
<td>See Delta-9-THC-COOH, Delta-9-THC, and 11-hydroxy-THC</td>
</tr>
<tr>
<td><strong>Carbamazepine</strong></td>
<td>X</td>
<td></td>
<td>CZ/CZX/ CZZX, Z</td>
<td>Chemistry and TDM</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Carbamazepine-10,11-epoxide</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Carbamazepine, free</td>
<td>CZ/CZX/ CZZX, Z</td>
<td>Chemistry and TDM</td>
<td></td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Carbapenem-resistant organisms</td>
<td>CRO</td>
<td></td>
<td>Carbapenem-resistant Organisms</td>
<td>187</td>
</tr>
<tr>
<td>Carbapenemase resistance mechanism detection</td>
<td>CRE</td>
<td></td>
<td>Carbapenemase Detection</td>
<td>187</td>
</tr>
<tr>
<td>Carbon dioxide (CO₂)</td>
<td>C1, C3/C3X, C4, CZ/CZX/ CZZX</td>
<td>Chemistry and TDM</td>
<td></td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td></td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td></td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Carboxyhemoglobin</td>
<td>SO</td>
<td></td>
<td>Blood Oximetry</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>SOQ</td>
<td></td>
<td>Quality Cross Check, Blood Oximetry</td>
<td>44</td>
</tr>
<tr>
<td>Cardiomyopathy sequencing panel</td>
<td>CMSP</td>
<td></td>
<td>Cardiomyopathy Sequencing Panel</td>
<td>260</td>
</tr>
<tr>
<td>Carisoprodol</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>Carisoprodol (cont.)</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Carnitine</td>
<td>BGL1</td>
<td></td>
<td>Biochemical Genetics</td>
<td>257</td>
</tr>
<tr>
<td>Casts, urine, semiquantitative</td>
<td>UAA, UAA1</td>
<td></td>
<td>Automated Urinalysis</td>
<td>154</td>
</tr>
<tr>
<td>CD1a</td>
<td>RFAV1</td>
<td></td>
<td>Rare Flow Antigen Validation, CD1a</td>
<td>228</td>
</tr>
<tr>
<td>CD3</td>
<td>X</td>
<td>FL, FL1</td>
<td>Lymphocyte Subset Immunophenotyping</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>FL7</td>
<td></td>
<td>Flow Cytometry, T-Cell Subsets Analysis</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>LN22</td>
<td></td>
<td>Flow Cytometry Cal Ver/Lin</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>SCP</td>
<td></td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td>CD4</td>
<td>X</td>
<td>FL, FL1</td>
<td>Lymphocyte Subset Immunophenotyping</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>FL7</td>
<td></td>
<td>Flow Cytometry, T-Cell Subsets Analysis</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>LN22</td>
<td></td>
<td>Flow Cytometry Cal Ver/Lin</td>
<td>130</td>
</tr>
<tr>
<td>CD8</td>
<td>X</td>
<td>FL, FL1</td>
<td>Lymphocyte Subset Immunophenotyping</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>FL7</td>
<td></td>
<td>Flow Cytometry, T-Cell Subsets Analysis</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>LN22</td>
<td></td>
<td>Flow Cytometry Cal Ver/Lin</td>
<td>130</td>
</tr>
<tr>
<td>CD20</td>
<td>PM3</td>
<td></td>
<td>Immunohistochemistry</td>
<td>298</td>
</tr>
<tr>
<td>CD30</td>
<td>CD30</td>
<td></td>
<td>Immunochemistry</td>
<td>298</td>
</tr>
<tr>
<td></td>
<td>RFAV3</td>
<td></td>
<td>Rare Flow Antigen Validation, CD30</td>
<td>228</td>
</tr>
<tr>
<td>CD34</td>
<td>CBT</td>
<td></td>
<td>Cord Blood Testing</td>
<td>239</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>FL4</td>
<td>Flow Cytometry CD34+</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>SCP</td>
<td></td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td>CD45</td>
<td>X</td>
<td>FL, FL1</td>
<td>Lymphocyte Subset Immunophenotyping</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>FL4</td>
<td></td>
<td>Flow Cytometry CD34+</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>SCP</td>
<td></td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td>CD49d</td>
<td>ZAP70</td>
<td></td>
<td>ZAP-70 Analysis by Flow Cytometry</td>
<td>228</td>
</tr>
<tr>
<td>CD103</td>
<td>RFAV2</td>
<td></td>
<td>Rare Flow Antigen Validation, CD103</td>
<td>228</td>
</tr>
<tr>
<td>CD117 (c-kit)</td>
<td>PM1</td>
<td></td>
<td>Immunohistochemistry</td>
<td>295</td>
</tr>
<tr>
<td>CEA</td>
<td>FLD</td>
<td></td>
<td>Body Fluid</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>FLDQ</td>
<td></td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LN5</td>
<td></td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LNSS</td>
<td></td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Cell-free DNA</td>
<td>CFDNA</td>
<td>Cell-Free Tumor DNA</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>Ceruloplasmin</td>
<td>X</td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td>217</td>
</tr>
<tr>
<td>CFU-GM</td>
<td>CBT</td>
<td>Cord Blood Testing</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>SCP</td>
<td>Stem Cell Processing</td>
<td>239</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH50</td>
<td>CH50</td>
<td>Total Hemolytic Complement</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>CH100</td>
<td>CH100</td>
<td>CH100</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>Chlamydia trachomatis</td>
<td>X</td>
<td>HC1</td>
<td>C. trachomatis by DFA</td>
<td>188</td>
</tr>
<tr>
<td>X</td>
<td>HC3</td>
<td>C. trachomatis by EIA</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>HC6, HC6X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>HC7</td>
<td>C. trachomatis/GC DNA by NAA</td>
<td>192</td>
<td></td>
</tr>
<tr>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlamydia pneumoniae</td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Chlordiazepoxide</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloride</td>
<td>X</td>
<td>AQ, AQ2, A03, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C4, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C4, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>FLD</td>
<td>Body Fluid</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>FLDQ</td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
<td>42</td>
</tr>
<tr>
<td>X</td>
<td>LCW</td>
<td>Chemistry–Ltd, Waived</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>X</td>
<td>R</td>
<td>Trace Metals</td>
<td>82</td>
</tr>
<tr>
<td>Chromium, urine</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Chromium, whole blood</td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Chromosomal abnormalities</td>
<td>X</td>
<td>CY, CYBK</td>
<td>Cytogenetics</td>
<td>254</td>
</tr>
<tr>
<td>Citalopram</td>
<td>FTC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Citrate</td>
<td>KSA</td>
<td>Kidney Stone Risk Assessment</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Citrobacter spp.</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Citrulline, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>CK isoenzymes</td>
<td>X</td>
<td>CRTI, HCRTI</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td>CK-MB (immunochemical)</td>
<td>X</td>
<td>CRT, CRTI, HCR, HCRTI</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td>Chloride, sweat</td>
<td>X</td>
<td>SW1, SW2, SW4</td>
<td>Sweat Analysis Series</td>
<td>83</td>
</tr>
<tr>
<td>Chloride, urine</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>------------------</td>
<td>--------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>CK-MB (immunochemical) (cont.)</td>
<td>X</td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC12</td>
<td>POC Cardiac Markers Competency</td>
<td>55</td>
</tr>
<tr>
<td>CK2 (MB)</td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Clinical pathology improvement program</td>
<td>CPIP/CPIP1</td>
<td>Quality Management, Education</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Clobazam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Clonipramine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Clonazepam</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Clonidine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Clostridium difficile antigen</td>
<td>CDF2</td>
<td>Clostridium difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CDF5</td>
<td>Clostridium difficile Detection</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D</td>
<td>Bacteriology–Antigen Detection</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>SR, SPN</td>
<td>Stool Pathogens–Rapid and Molecular</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Clostridium difficile toxin</td>
<td>CDF2</td>
<td>Clostridium difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CDF5</td>
<td>Clostridium difficile Detection</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>Bacteriology–Antigen Detection</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIPS</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SR, SPN</td>
<td>Stool Pathogens–Rapid and Molecular</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Clozapine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Compatibility testing</td>
<td>X</td>
<td>J, JAT</td>
<td>Transfusion Medicine</td>
<td>230–231</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JATE1</td>
<td>Transfusion Medicine, Automated, Educational</td>
<td>231</td>
</tr>
</tbody>
</table>

**CMV**

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN38</td>
<td>CMV Viral Load Cal</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VLS, VLS2</td>
<td>Viral Load</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VM3</td>
<td>Viral Markers–Series 3</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VR3</td>
<td>Infectious Disease Serology</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>c-Myc/Bcl-2 immunohistochemistry tumor markers</td>
<td>MYCB</td>
<td>c-Myc/Bcl-2 Immunohistochemistry TMA</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>CO₂</td>
<td>x</td>
<td>C1, C3/C3X, C4, C2/CZX/C2ZXX</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Cobalt</td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Cobalt, whole blood</td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Cocaethylene</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Clonazepam</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Cocaine</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Codeine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Analyte/Procedure LAP ENR
- Program Code
- Description
- Page
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility testing (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complement C3</td>
<td>X</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN7</td>
<td>Immunology Cal Ver/Lin</td>
<td>126</td>
</tr>
<tr>
<td>Complement C4</td>
<td>X</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN7</td>
<td>Immunology Cal Ver/Lin</td>
<td>126</td>
</tr>
<tr>
<td>Complexed PSA</td>
<td>X</td>
<td>K/KK</td>
<td>Ligand—General</td>
<td>86</td>
</tr>
<tr>
<td>COMT</td>
<td></td>
<td>PGX1</td>
<td>Pharmacogenetics</td>
<td>264</td>
</tr>
<tr>
<td>Conductivity, sweat</td>
<td>X</td>
<td>SW1, SW2, SW4</td>
<td>Sweat Analysis Series</td>
<td>83</td>
</tr>
<tr>
<td>Connexin 26 (GJB2 gene)</td>
<td>X</td>
<td>MGL3</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Copper</td>
<td>X</td>
<td>R</td>
<td>Trace Metals</td>
<td>82</td>
</tr>
<tr>
<td>Copper, urine</td>
<td></td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
</tr>
<tr>
<td>Copper, whole blood</td>
<td></td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
</tr>
<tr>
<td>Coproporphyrins</td>
<td>X</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td>73</td>
</tr>
<tr>
<td>Copy number variant</td>
<td></td>
<td>CNVST</td>
<td>Copy Number Variant–Solid Tumor</td>
<td>273</td>
</tr>
<tr>
<td>Coronavirus</td>
<td>COV2</td>
<td>SARS-CoV-2 Molecular</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COVS</td>
<td>SARS-CoV-2 Serology</td>
<td>222</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID2</td>
<td>Nucleic Acid Amp, Respiratory</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
</tr>
<tr>
<td>Cortisol</td>
<td>ABS</td>
<td>Accuracy-Based Testosterone and Estradiol</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X</td>
<td>Ligand—General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN5</td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN5S</td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Cortisol, salivary</td>
<td>SALC</td>
<td>Salivary Cortisol</td>
<td>81</td>
<td></td>
</tr>
<tr>
<td>Cortisol, urinary free</td>
<td>X</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td>73</td>
</tr>
<tr>
<td>Cotinine</td>
<td>NTA</td>
<td>Nicotine and Tobacco Alkaloids</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>COVID-19</td>
<td>COV2</td>
<td>SARS-CoV-2 Molecular</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COV2Q</td>
<td>Quality Cross Check, SARS-CoV-2 Molecular</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COVAG</td>
<td>SARS-CoV-2 Antigen</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COVAQ</td>
<td>Quality Cross Check, SARS-CoV-2 Antigen</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COVS</td>
<td>SARS-CoV-2 Serology</td>
<td>222</td>
<td></td>
</tr>
<tr>
<td>COVID-19 (cont.)</td>
<td>COVSQ</td>
<td>Quality Cross Check, SARS-CoV-2 Serology</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID3Q</td>
<td>Quality Cross Check–Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>C-peptide</td>
<td>ABGIC</td>
<td>Accuracy-Based Glucose, Insulin, and C-Peptide</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ING</td>
<td>Insulin, Gastrin, C-Peptide, PTH</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN46</td>
<td>C-Peptide/Insulin Cal Ver/Lin</td>
<td>135</td>
</tr>
<tr>
<td>C-reactive protein (CRP)</td>
<td>X</td>
<td>CRP, IL</td>
<td>Immunology</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN12</td>
<td>C-Reactive Protein Cal Ver/Lin</td>
<td>128</td>
</tr>
<tr>
<td>C-reactive protein, high-sensitivity (hsCRP)</td>
<td>X</td>
<td>HSCRP</td>
<td>High-Sensitivity C-Reactive Protein</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN21</td>
<td>High-Sensitivity C-Reactive Protein Cal Ver/Lin</td>
<td>130</td>
</tr>
<tr>
<td>Creatine kinase (CK)</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Creatinine</td>
<td>X</td>
<td>AQ2, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A02Q, A04Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C1, C3/C3X, C4, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLD</td>
<td>Body Fluid</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLDQ</td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN24</td>
<td>Creatinine Accuracy Cal Ver/Lin</td>
<td>131</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Creatinine (cont.)</td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>SCO</td>
<td>Serum Carryover</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>ABU</td>
<td>Accuracy-Based Urine</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>BU</td>
<td>Bone and Mineral, Urine</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>X</td>
<td>Cadmium</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>DAI</td>
<td>Urine Drug Adulterant/Integrity Testing</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>LN20</td>
<td>Urine Albumin Cal Ver/Lin</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>X</td>
<td>Urine Chemistry-General</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>Creatinine, urine</td>
<td>X</td>
<td>Urine Albumin/Creatinine</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>Creatinine, vitreous fluid</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Creatinine, whole blood</td>
<td>WBCR</td>
<td>Whole Blood Creatinine</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Crossmatching</td>
<td>EXM, EXM2</td>
<td>Electronic Crossmatch</td>
<td>231, 233</td>
<td></td>
</tr>
<tr>
<td>Crossmatching</td>
<td>X</td>
<td>J, JAT</td>
<td>Transfusion Medicine</td>
<td>230–231</td>
</tr>
<tr>
<td>Crossmatching</td>
<td>X</td>
<td>MXC</td>
<td>HLA Analysis, Class I/II</td>
<td>248</td>
</tr>
<tr>
<td>Crossmatching</td>
<td>TMCA</td>
<td>Transfusion Medicine, Competency Assessment</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>X</td>
<td>CRYP</td>
<td>Cryptococcal Antigen Detection</td>
<td>196</td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>X</td>
<td>F</td>
<td>Mycology and Aerobic Actinomycetes</td>
<td>195</td>
</tr>
<tr>
<td>Cryptococcal antigen detection</td>
<td>X</td>
<td>F1</td>
<td>Yeast</td>
<td>195</td>
</tr>
<tr>
<td>Cryptococcus neoformans/gatti</td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Cryptococcus neoformans/gatti</td>
<td>IDMS</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Cryptosporidium</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Cryptosporidium</td>
<td>GIPS</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Cryptosporidium immunoassay, preserved specimen</td>
<td>P, P3, P4, P5</td>
<td>Parasitology</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>Crystal identification (bile)</td>
<td>BCR</td>
<td>Bile crystals</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Crystal identification (body fluid)</td>
<td>BFC</td>
<td>Body Fluid Crystals</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Crystal identification (urine)</td>
<td>URC</td>
<td>Urine Crystals</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Crystals, urine (semiquantitative)</td>
<td>UAA</td>
<td>Automated Urinalysis</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>CSF antigen detection</td>
<td>X</td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
</tr>
<tr>
<td>CSF IgG calculations</td>
<td>OLI</td>
<td>CSF Chemistry and Oligoclonal Bands</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>C-telopeptide (CTX)</td>
<td>BMV5</td>
<td>Bone Markers and Vitamin</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Cutibacterium avidum/granulosum</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Cyclic citrullinated peptide antibody</td>
<td>CCP</td>
<td>Anti-cyclic Citrullinated Peptide Antibody</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Cyclobenzaprine</td>
<td>DFC</td>
<td>Drug-Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Cyclospora cayatanensis</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Cyclosporine</td>
<td>LN31</td>
<td>Immunosuppressive Drugs</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>CYP2B6</td>
<td>PGX</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>CYP2C9</td>
<td>PGX</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>CYP2C19</td>
<td>PGX</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>CYP2D6</td>
<td>PGX</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>CYP2C9</td>
<td>PGX</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>Cystinosis</td>
<td>CYS</td>
<td>Cystinosis</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Cystic fibrosis (CFTR gene)</td>
<td>MGL2, MGL5</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Cystine</td>
<td>KSA</td>
<td>Kidney Stone Risk Assessment</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Cystine, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Cytogenomic microarray</td>
<td>CYCGH</td>
<td>Constitutional Microarray Analysis</td>
<td>256</td>
<td></td>
</tr>
<tr>
<td>Cytology proficiency testing</td>
<td>CYCMA</td>
<td>Cytogenomic Microarray Analysis for Oncologic Abnormality</td>
<td>256</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>LN38</td>
<td>CMV Viral Load Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>VLS, VLS2</td>
<td>Viral Load</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td>Cytomegalovirus (CMV)</td>
<td>VM3</td>
<td>Viral Markers–Series 3</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Cytomegalovirus (CMV) (cont.)</td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Virology by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR3</td>
<td>Infectious Disease Serology</td>
<td>213</td>
</tr>
<tr>
<td>Cytopathology GYN education</td>
<td>PAPCE1</td>
<td>PAP Edu, Conventional</td>
<td>306</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PARJ1</td>
<td>PAP Edu, All Technologies</td>
<td>306</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PARKE1</td>
<td>PAP Edu, SurePath</td>
<td>306</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPME1</td>
<td>PAP Edu, ThinPrep</td>
<td>306</td>
<td></td>
</tr>
<tr>
<td>Cytopathology GYN proficiency testing</td>
<td>PAPCPT</td>
<td>PAP PT, Conventional</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPPT</td>
<td>PAP PT, Combination</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPKPT</td>
<td>PAP PT, SurePath</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPLPT</td>
<td>PAP PT, Combination</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPMPT</td>
<td>PAP PT, ThinPrep</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td>Cytopathology, nongynecologic</td>
<td>FNA/FNA1</td>
<td>Fine-Needle Aspiration-Online</td>
<td>311</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FNAG/FNAG1</td>
<td>Fine-Needle Aspiration-Glass</td>
<td>312</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NGC/NGC1</td>
<td>Nongynecologic Cytopathology Education Program</td>
<td>310</td>
<td></td>
</tr>
<tr>
<td>Cytopreparation differential manual</td>
<td>HFC</td>
<td>Hemocytometer Fluid Count</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>Dabigatran</td>
<td>DBGN</td>
<td>Anticoagulant Monitoring, Dabigatran</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>D-dimer, qualitative</td>
<td>CGDF</td>
<td>Coagulation, D-dimer/FDP</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CGL</td>
<td>Coagulation, Limited</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td>D-dimer, quantitative</td>
<td>X</td>
<td>CGDF</td>
<td>Coagulation, D-dimer/FDP</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CGL</td>
<td>Coagulation, Limited</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>CGLQ</td>
<td>Quality Cross Check, Coagulation, Limited</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN42</td>
<td>D-dimer Cal Ver/Lin</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>POCl2</td>
<td>POC Cardiac Markers Competency</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>THCB</td>
<td>Blood Cannabinoids</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Delta-9-THC-COOH</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Demoxepam</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Deoxypyrindoline (DPD)</td>
<td>BU</td>
<td>Bone and Mineral, Urine</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>Dermatopathology</td>
<td>DPATH/DPATH1</td>
<td>Online Digital Slide Program</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td>Dermatopathology immunohistochemistry</td>
<td>DPHC</td>
<td>Dermatopathology Immunohistochemistry</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>Dermatophyte identification</td>
<td>X</td>
<td>F</td>
<td>Mycology and Aerobic Actinomycetes</td>
<td>195</td>
</tr>
<tr>
<td>Desipramine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ZT</td>
<td>TDM, Special</td>
<td>62</td>
</tr>
<tr>
<td>Desmethylclomipramine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Desmethylsertraline</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Dextromethorphan</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>DHEA sulfate</td>
<td>X</td>
<td>YYY</td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>DIA (Dimeric inhibin A)</td>
<td>X</td>
<td>FP/FPX</td>
<td>Maternal Screen</td>
<td>91</td>
</tr>
<tr>
<td>Diazepam</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Differential, automated</td>
<td>X</td>
<td>FH1-FH4, FH9, FH10, FH13, FH16, FH17</td>
<td>Hematology Automated Differential</td>
<td>141</td>
</tr>
<tr>
<td>Differential (bone marrow), manual</td>
<td>BMD</td>
<td></td>
<td>Bone Marrow Cell Differential</td>
<td>144</td>
</tr>
<tr>
<td>Differential (fluid), manual</td>
<td>HFC, HFCI</td>
<td></td>
<td>Hemocytometer Fluid Count</td>
<td>156</td>
</tr>
<tr>
<td>Differential (peripheral blood), manual</td>
<td>EHE1</td>
<td></td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>VPBS</td>
<td></td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td>Digital slide program in fine-needle aspiration, online</td>
<td>FNA/FNA1</td>
<td></td>
<td>Online Digital Slide Program</td>
<td>311</td>
</tr>
<tr>
<td>Digoxin</td>
<td>X</td>
<td>CZ/CZX/ CZX2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>LN3</td>
<td></td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Digoxin, free</td>
<td>CZ/CZX/ CZX2X, Z</td>
<td></td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Dihydrocodeine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Diltiazem</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Dilute prothrombin time</td>
<td>CGE/CGEX</td>
<td></td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td>Dilute Russell's viper venom time</td>
<td>GGS1</td>
<td></td>
<td>Coag Special, Series 1</td>
<td>167</td>
</tr>
<tr>
<td>Dimeric inhibin A (DIA)</td>
<td>X</td>
<td>FP/FPX</td>
<td>Maternal Screen</td>
<td>91</td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Diphenylhydantoin</td>
<td></td>
<td></td>
<td>See Phenytoin</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct antoglobulin testing</td>
<td>X</td>
<td>DAT</td>
<td>Direct Antoglobulin Testing</td>
<td>236</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TMCAD</td>
<td>Transfusion Medicine, Competency Assessment</td>
<td>237</td>
</tr>
<tr>
<td>Direct antoglobulin testing, automated</td>
<td>ADAT</td>
<td></td>
<td>Direct Antoglobulin Testing–Automated</td>
<td>236</td>
</tr>
<tr>
<td>Direct bilirubin</td>
<td>X</td>
<td>C1, C3/C3X, C6, C2/CZX/CZX2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td></td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td></td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Disease association/drug risk</td>
<td>DADR1, DADR2</td>
<td></td>
<td>Disease Association/Drug Risk</td>
<td>251</td>
</tr>
<tr>
<td>Disopyramide</td>
<td>CZ/CZX/ CZX2X, Z</td>
<td></td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>DMD/Becker (DMD gene)</td>
<td>MGL2</td>
<td></td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>DNA analysis</td>
<td>DML</td>
<td></td>
<td>HLA Molecular Typing</td>
<td>248</td>
</tr>
<tr>
<td></td>
<td>PARF</td>
<td></td>
<td>Parentage/Relationship</td>
<td>245</td>
</tr>
<tr>
<td>DNA content/cell cycle analysis</td>
<td>FL, FL2</td>
<td></td>
<td>Flow Cytometry</td>
<td>224</td>
</tr>
<tr>
<td>DNA extraction and amplification</td>
<td>MHOS</td>
<td></td>
<td>Molecular Oncology Hematologic</td>
<td>274, 278</td>
</tr>
<tr>
<td>DNA fingerprinting</td>
<td>IDN, IDO</td>
<td></td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td>DNA mismatch repair</td>
<td>HQMMR</td>
<td></td>
<td>HistoQIP Mismatch Repair iHC</td>
<td>294</td>
</tr>
<tr>
<td>DNA sequencing</td>
<td>MMR</td>
<td></td>
<td>DNA Mismatch Repair</td>
<td>299</td>
</tr>
<tr>
<td>DNA sequencing</td>
<td>SEC, SEC1</td>
<td></td>
<td>DNA Sequencing</td>
<td>263</td>
</tr>
<tr>
<td>Dopamine</td>
<td>N/NX</td>
<td></td>
<td>Urine Chemistry–Special</td>
<td>73</td>
</tr>
<tr>
<td>Doxepin</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Doxylamine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>DPYD</td>
<td>PGX3</td>
<td></td>
<td>Pharmacogenetics</td>
<td>264</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>E. coli 0157</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>eGFR</td>
<td>X</td>
<td>LN24</td>
<td>Creatinine Accuracy Cal Ver/Lin</td>
<td>131</td>
</tr>
<tr>
<td>EGFR–epidermal growth factor receptor</td>
<td>X</td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td>Electronic crossmatch</td>
<td>EXM, EXM2</td>
<td></td>
<td>Electronic Crossmatch</td>
<td>231, 233</td>
</tr>
<tr>
<td>Electrophoresis</td>
<td>X</td>
<td>HG</td>
<td>Hemoglobinopathy</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>LPE</td>
<td></td>
<td>Lipoprotein Electrophoresis</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>M, OLI</td>
<td>CSF Chemistry and Oligoclonal Bands</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UBJP</td>
<td>Urine Bence Jones Protein</td>
<td>80</td>
</tr>
<tr>
<td>Elution, antibody</td>
<td>ELU</td>
<td></td>
<td>Eluate</td>
<td>236</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TMCAE</td>
<td>Eluate Competency Assessment</td>
<td>237</td>
</tr>
<tr>
<td>Embryology</td>
<td>EMB</td>
<td></td>
<td>Embryology</td>
<td>161</td>
</tr>
<tr>
<td>Entameoba histolytica</td>
<td>GIP, GIPS</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Enter aggregative E. coli (EAEC)</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Entrobacter cloacae complex</td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>JIP</td>
<td></td>
<td>Joint Infection Panel</td>
<td>208</td>
</tr>
<tr>
<td>Enterococcus faecalis</td>
<td>JIP</td>
<td></td>
<td>Joint Infection Panel</td>
<td>208</td>
</tr>
<tr>
<td>Enterococcus faecium</td>
<td>JIP</td>
<td></td>
<td>Joint Infection Panel</td>
<td>208</td>
</tr>
<tr>
<td>Enteropathogenic E. coli (EPEC)</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>GIPS</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Enterotoxigenic E. coli (ETEC)</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Enterox virus</td>
<td>X</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>IDME</td>
<td></td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDMS</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Enterovirus</td>
<td>ID1</td>
<td></td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>IDME</td>
<td></td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDMS</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>JIP</td>
<td></td>
<td>Joint Infection Panel</td>
<td>208</td>
</tr>
<tr>
<td>Escherichia coli K1</td>
<td>IDME</td>
<td></td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDMS</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Escherichia coli 0157</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Estazolam</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td>Estradiol</td>
<td>ABS</td>
<td></td>
<td>Accuracy-Based Testosterone and Estradiol</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>LN8</td>
<td></td>
<td>Reproductive Endocrinology Cal Ver/ Lin</td>
<td>127</td>
</tr>
<tr>
<td>Estriol, unconjugated (uE3)</td>
<td>X</td>
<td>FP/FPX</td>
<td>Maternal Screen</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>YYY</td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Estrogen receptors by immunohistochemistry</td>
<td>X</td>
<td>PM2</td>
<td>ER, PgR by Immunohistochemistry</td>
<td>297</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Ethanol</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol, urine</td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Ethanol, vitreous fluid</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethosuximide</td>
<td>CZ/CZX/CZ2X/</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Ethyl glucuronide (EtG)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethyl sulfate (EtS)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>AL2</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Etizolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Everolimus</td>
<td>EV</td>
<td>Everolimus</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Factor II</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>Factor II (F2 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor V</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor V Leiden (F5 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor VII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII inhibitor</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor IX</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor X</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XI</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Familial dysautonomia (ELP1 gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fanconi anemia, complementation grp. C (FANCC gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fetal calprotectin</td>
<td>FCAL</td>
<td>Fecal Calprotectin</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td>Fecal Fat</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal lactoferrin</td>
<td>FLAC</td>
<td>Fecal Lactoferrin</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>Fecal occult blood</td>
<td>OCB</td>
<td>Occult Blood</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Ethanol (whole blood)</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol (serum)</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol (vitreous fluid)</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethosuximide</td>
<td>CZ/CZX/CZ2X/</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Ethyl glucuronide (EtG)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethyl sulfate (EtS)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>AL2</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Etizolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Everolimus</td>
<td>EV</td>
<td>Everolimus</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Factor II</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>Factor II (F2 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor V</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor V Leiden (F5 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor VII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII inhibitor</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor IX</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor X</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XI</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Familial dysautonomia (ELP1 gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fanconi anemia, complementation grp. C (FANCC gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fetal calprotectin</td>
<td>FCAL</td>
<td>Fecal Calprotectin</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td>Fecal Fat</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal lactoferrin</td>
<td>FLAC</td>
<td>Fecal Lactoferrin</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>Fecal occult blood</td>
<td>OCB</td>
<td>Occult Blood</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Ethanol (whole blood)</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol (serum)</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol (vitreous fluid)</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethosuximide</td>
<td>CZ/CZX/CZ2X/</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Ethyl glucuronide (EtG)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethyl sulfate (EtS)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>AL2</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Etizolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Everolimus</td>
<td>EV</td>
<td>Everolimus</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Factor II</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>Factor II (F2 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor V</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor V Leiden (F5 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor VII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII inhibitor</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor IX</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor X</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XI</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Familial dysautonomia (ELP1 gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fanconi anemia, complementation grp. C (FANCC gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fetal calprotectin</td>
<td>FCAL</td>
<td>Fecal Calprotectin</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td>Fecal Fat</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal lactoferrin</td>
<td>FLAC</td>
<td>Fecal Lactoferrin</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>Fecal occult blood</td>
<td>OCB</td>
<td>Occult Blood</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Ethanol (whole blood)</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol (serum)</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethanol (vitreous fluid)</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Ethosuximide</td>
<td>CZ/CZX/CZ2X/</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Ethyl glucuronide (EtG)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethyl sulfate (EtS)</td>
<td>ETC</td>
<td>Ethanol Biomarkers</td>
<td>107</td>
<td></td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>AL2</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Etizolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Everolimus</td>
<td>EV</td>
<td>Everolimus</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Factor II</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>Factor II (F2 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor V</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor V Leiden (F5 gene)</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Factor VII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor VIII inhibitor</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor IX</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor X</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XI</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Factor XIII</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Familial dysautonomia (ELP1 gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fanconi anemia, complementation grp. C (FANCC gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Fetal calprotectin</td>
<td>FCAL</td>
<td>Fecal Calprotectin</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal fat, qualitative</td>
<td>FCFS</td>
<td>Fecal Fat</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fecal lactoferrin</td>
<td>FLAC</td>
<td>Fecal Lactoferrin</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td>Fecal occult blood</td>
<td>OCB</td>
<td>Occult Blood</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Fibrin degradation products, plasma</td>
<td>CGDF</td>
<td>CGL</td>
<td>Coagulation, D-dimer/FDP</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CGLQ</td>
<td>Quality Cross Check, Coagulation, Limited</td>
<td>48</td>
</tr>
<tr>
<td>Fibrin degradation products, serum</td>
<td>CGDF</td>
<td>CGL</td>
<td>Coagulation, D-dimer/FDP</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CGLQ</td>
<td>Quality Cross Check, Coagulation, Limited</td>
<td>48</td>
</tr>
<tr>
<td>Fibrin monomer</td>
<td>CGL</td>
<td>Coagulation, Limited</td>
<td></td>
<td>164</td>
</tr>
<tr>
<td>Fibrinogen</td>
<td>X</td>
<td>CGL</td>
<td>Coagulation, D-dimer/FDP</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CGLQ</td>
<td>Quality Cross Check, Coagulation, Limited</td>
<td>48</td>
</tr>
<tr>
<td>Fibrinogen antigen</td>
<td>CGE/CGE</td>
<td>Coagulation, Extended</td>
<td></td>
<td>165</td>
</tr>
<tr>
<td><em>Finegoldia magna</em></td>
<td>JIP</td>
<td>Coagulation, Limited</td>
<td></td>
<td>208</td>
</tr>
<tr>
<td>Fine-needle aspiration, digital slide program</td>
<td>FNA/FNA1</td>
<td>Online Digital Slide Program</td>
<td></td>
<td>311</td>
</tr>
<tr>
<td>Fine-needle aspiration, glass slides</td>
<td>FNAG/FNAG1</td>
<td>Fine-Needle Aspiration</td>
<td></td>
<td>312</td>
</tr>
<tr>
<td>FISH for brain/glioma</td>
<td>CYJ</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Brain/Glioma Tissue</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>FISH for breast carcinoma hybridization on site</td>
<td>X</td>
<td>CYH</td>
<td>FISH for ERBB2 (HER2) Amplification</td>
<td>255</td>
</tr>
<tr>
<td>ERBB2 (HER2) amplification</td>
<td></td>
<td>CYHI</td>
<td>FISH for ERBB2 (HER2) Amplification, Interpretation Only Exercise</td>
<td>296</td>
</tr>
<tr>
<td>FISH for constitutional and hematologic disorders</td>
<td>CYF</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site</td>
<td></td>
<td>254</td>
</tr>
<tr>
<td>FISH for lung cancer, ALK rearrangement</td>
<td>CYALK</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Lung Cancer</td>
<td></td>
<td>255</td>
</tr>
<tr>
<td>FISH for lymphoma</td>
<td>CYL</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Lymphoma</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>FISH for paraffin-embedded tissue</td>
<td>X</td>
<td>CYH</td>
<td>FISH for ERBB2 (HER2) Amplification</td>
<td>255</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CYJ</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Brain/Glioma Tissue</td>
<td>255</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>FISH for paraffin-embedded tissue (cont.)</td>
<td>CYK</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Solid Tumor</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CYL</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Lymphoma</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>FISH for solid tumor</td>
<td>CYK</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Solid Tumor</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>FISH for urothelial carcinoma hybridization and</td>
<td>X</td>
<td>CYI</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Urothelial Carcinoma</td>
<td>254</td>
</tr>
<tr>
<td>interpretation</td>
<td></td>
<td></td>
<td>Flow cytometry, post-immunotherapy analysis</td>
<td>225</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>AFD</td>
<td>Monitoring</td>
<td>Anti fungal Drugs Monitoring</td>
<td>111</td>
</tr>
<tr>
<td>Fluconazole</td>
<td>AFLO</td>
<td>Monitoring</td>
<td>Anti fungal Drugs Monitoring</td>
<td>111</td>
</tr>
<tr>
<td>Flunitrazepam</td>
<td>FTC</td>
<td>Toxicology</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Fluidyne</td>
<td>FDC</td>
<td>Drug–Facilitated Crime</td>
<td></td>
<td>113</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>FTC</td>
<td>Toxicology</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Folate, RBC</td>
<td>X</td>
<td>FOL</td>
<td>RBC Folate</td>
<td>92</td>
</tr>
<tr>
<td>Folate, serum</td>
<td>X</td>
<td>K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LNS</td>
<td>Cal Ver/Lin</td>
<td>Ligand Assay</td>
<td>125</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>ABS</td>
<td>Accuracy-Based</td>
<td></td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>LNS5</td>
<td>Cal Ver/Lin</td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LNB</td>
<td>Reproductive</td>
<td>Endocrinology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td>Follicle-stimulating hormone (FSH)</td>
<td>LNB</td>
<td>Sex Hormones</td>
<td>Reproductive Endocrinology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td>Frenaparin</td>
<td>FNPX</td>
<td>Anticoagulant Monitoring</td>
<td></td>
<td>168</td>
</tr>
<tr>
<td>Forensic pathology</td>
<td>FR/FR1</td>
<td>Forensic Pathology</td>
<td></td>
<td>314</td>
</tr>
<tr>
<td>Forensic toxicology</td>
<td>FTC</td>
<td>Toxicology</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Fragile X (FMR1 gene)</td>
<td>X</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Free beta hCG</td>
<td>FP1B</td>
<td>First Trimester Maternal Screening, Free Beta</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Free Kappa/Lambda ratio</td>
<td>SFLC</td>
<td>Serum Free Light Chains</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>------------------</td>
<td>-----</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Free testosterone</td>
<td>DY</td>
<td>Sex Hormones</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Friedreich ataxia (FXN gene)</td>
<td>X</td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Fructoseamine</td>
<td>FT</td>
<td>Fructoseamine</td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Fungal culture</td>
<td>CBT</td>
<td>Cord Blood Testing</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>Fungal serology</td>
<td>FSER</td>
<td>Fungal Serology</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td>Fungus identification</td>
<td>X F</td>
<td>Mycology and Aerobic Actinomycetes</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X F1</td>
<td>Yeast</td>
<td>195</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X F3</td>
<td>Candida culture</td>
<td>196</td>
<td></td>
</tr>
<tr>
<td>G6PD</td>
<td>PGX1</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>Gabapentin</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Galactomannan</td>
<td>FGAL</td>
<td>Galactomannan</td>
<td>196</td>
<td></td>
</tr>
<tr>
<td>Gamma globulin</td>
<td>M, OL1</td>
<td>CSF Chemistry</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SPE</td>
<td>Serum Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Gamma glutamyl transferase (GGT)</td>
<td>X</td>
<td>C1, C3/C3X, C2/CZX/CZX2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
</tr>
<tr>
<td>Gamma hydroxybutyrate (GHB)</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Gardnerella vaginalis, DNA probe</td>
<td>X</td>
<td>VS</td>
<td>Vaginitis Screen</td>
<td>191</td>
</tr>
<tr>
<td>Gastric occult blood</td>
<td>GOCB</td>
<td>Gastric Occult Blood</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Gastric pH</td>
<td>GOCB</td>
<td>Gastric Occult Blood</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Gastrin</td>
<td>X</td>
<td>ING</td>
<td>Insulin, Gastrin, C-Peptide, PTH</td>
<td>90</td>
</tr>
<tr>
<td>Gaucher disease (GBA gene)</td>
<td>X</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>GDH Antigen</td>
<td>X</td>
<td>CDF2</td>
<td>Clostridioides (Clostridum) difficile Detection</td>
<td>188</td>
</tr>
<tr>
<td>GDH Antigen (cont.)</td>
<td>X</td>
<td>CDF5</td>
<td>Clostridioides (Clostridium) difficile Detection</td>
<td>188</td>
</tr>
<tr>
<td>Genomic copy number array</td>
<td>CYCGH</td>
<td>Constitutional Microarray Analysis</td>
<td>256</td>
<td></td>
</tr>
<tr>
<td>Gentamicin</td>
<td>X C2/CZ2/CZX2Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Giardia</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Giardia immunoassay, preserved specimen</td>
<td>X</td>
<td>P, P3, P4, P5</td>
<td>Parasitology</td>
<td>198</td>
</tr>
<tr>
<td>Giemsa stain</td>
<td>X</td>
<td>BP</td>
<td>Blood Parasite</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>P</td>
<td>Parasitology</td>
<td>198</td>
</tr>
<tr>
<td>Glioma by FISH</td>
<td>CYJ</td>
<td>Fluorescence In Situ Hybridization and Interpretation on Site, Brain/Glioma Tissue</td>
<td>255</td>
<td></td>
</tr>
<tr>
<td>Glucose</td>
<td>ABGIC</td>
<td>Accuracy-Based Glucose, Insulin, and C-Peptide</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>AQ2, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AQ2Q, AQ4Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C4, C2/CZX/CZX2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FLD</td>
<td>Body Fluid</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FLDQ</td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN13C</td>
<td>Blood Gas Cal Ver/Lin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
</tr>
<tr>
<td>Glucose, CSF</td>
<td>X</td>
<td>M, OLI</td>
<td>CSF Chemistry and Oligoclonal Bands</td>
<td>78</td>
</tr>
<tr>
<td>Glucose, urine</td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>POC3</td>
<td>POC Urine Dipstick Competency</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Glucose, urine (cont.)</td>
<td>X</td>
<td>U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
</tr>
<tr>
<td>Glucose, vitreous fluid</td>
<td>VF</td>
<td></td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
</tr>
<tr>
<td>Glucose, whole blood</td>
<td>X</td>
<td>HCC</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LCW</td>
<td>Chemistry–Lnd, Waived</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN17</td>
<td>Whole Blood Glucose Cal Ver/Lin</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC2</td>
<td>POC Glucose Competency</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC7</td>
<td>POC/Waived Glucose and Hemoglobin Competency</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WBGQ</td>
<td>Quality Cross Check, Whole Blood Glucose</td>
<td>41</td>
</tr>
<tr>
<td>Glucose-6-phosphate dehydrogenase, qualitative and quantitative</td>
<td>G6PDS</td>
<td></td>
<td>Glucose-6 Phosphate Dehydrogenase</td>
<td>79</td>
</tr>
<tr>
<td>Glutamic acid, quantitative</td>
<td>BGL2</td>
<td></td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Glutamine, quantitative</td>
<td>BGL2</td>
<td></td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Glutaraldehyde, urine</td>
<td>DAI</td>
<td></td>
<td>Urine Drug Adulterant/ Integrity Testing</td>
<td>103</td>
</tr>
<tr>
<td>Glycated serum albumin</td>
<td>GSA</td>
<td></td>
<td>Glycated Serum Albumin</td>
<td>68</td>
</tr>
<tr>
<td>Glycine, quantitative</td>
<td>BGL2</td>
<td></td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Glycogen storage disease type la (G6PC gene)</td>
<td>MGL4</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Glycohemoglobin</td>
<td>GH2, GH5, GH5I</td>
<td>Hemoglobin A1c</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GHQ</td>
<td>Quality Cross Check, Hemoglobin A1c</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN15</td>
<td>Hemoglobin A1, Cal Ver/Lin</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Glycosaminoglycans (mucopolysaccharides)</td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Gram stain</td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D2, D3, RMC</td>
<td>Throat, Urine, GC Cultures</td>
<td>179–180</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D5</td>
<td>Gram Stain</td>
<td>181</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VGS1</td>
<td>Virtual Gram Stain Basic</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VGS2</td>
<td>Virtual Gram Stain Advanced</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VS2</td>
<td>Vaginitis Screen, Virtual Gram stain</td>
<td>193</td>
<td></td>
</tr>
<tr>
<td>Group A Streptococcus antigen detection</td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D6</td>
<td>Rapid Group A Strep</td>
<td>183</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A Streptococcus antigen detection (cont.)</td>
<td>D</td>
<td>D9</td>
<td>Rapid Group A Strep, Waived</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MC4</td>
<td>Urine Colony Count Combination</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC4</td>
<td>POC Strep Screen Competency</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RMC</td>
<td>Routine Microbiology Combination</td>
<td>180</td>
</tr>
<tr>
<td>Group B Streptococcus</td>
<td>D8</td>
<td></td>
<td>Group B Strep</td>
<td>184</td>
</tr>
<tr>
<td>Growth hormone</td>
<td>Y/YY</td>
<td></td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Gyn cytopathology</td>
<td></td>
<td></td>
<td>See Cytopathology GYN Proficiency Testing</td>
<td></td>
</tr>
<tr>
<td>Gyn cytopathology education</td>
<td></td>
<td></td>
<td>See Cytopathology GYN Education</td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haptoglobin</td>
<td>X</td>
<td>IG/IX</td>
<td>Immunology, General</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S2/S4</td>
<td>Immunology, Special</td>
<td>217</td>
</tr>
<tr>
<td>HBeAg</td>
<td>X</td>
<td>VM2</td>
<td>Viral Markers, Series 2</td>
<td>242</td>
</tr>
<tr>
<td>HBsAg</td>
<td>X</td>
<td>VM1</td>
<td>Viral Markers, Series 1</td>
<td>242</td>
</tr>
<tr>
<td>HBV</td>
<td></td>
<td>HBVL, HBVL5</td>
<td>Hepatitis Viral Load</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NAT</td>
<td>Nucleic Acid Testing</td>
<td>244</td>
</tr>
<tr>
<td>HCV</td>
<td></td>
<td>HCV2</td>
<td>Hepatitis Viral Load, Genotyping and Qualitative</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN45</td>
<td>HCV Viral Load Cal Ver/Lin</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NAT</td>
<td>Nucleic Acid Testing</td>
<td>244</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td>ABL</td>
<td></td>
<td>Accuracy-Based Lipid</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>C1, C3/C3X, C4, C2/CX/ C2Z2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LCW</td>
<td>Chemistry–Lnd, Waived</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>Helicobacter pylori</td>
<td>HPS</td>
<td>H. pylori Antigen, Stool</td>
<td>188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S2, S4</td>
<td>H. pylori IgG Antibody</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S5</td>
<td>H. pylori IgG Antibody</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VR3</td>
<td>H. pylori IgG Antibody</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Hematocrit</td>
<td>X</td>
<td>A0, A02, A03, A04</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A0Q, A02Q, A03Q, A04Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td>Hematocrit (cont.)</td>
<td>X</td>
<td>HCC</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN9</td>
<td>Hematology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC7</td>
<td>POC/Waived Glucose and Hemoglobin Competency</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCP</td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>SO</td>
<td>Blood Oximetry</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SOQ</td>
<td>Quality Cross Check, Blood Oximetry</td>
<td>44</td>
</tr>
<tr>
<td>Hemoglobin A1c</td>
<td>X</td>
<td>GH2, GH5, GH5I</td>
<td>Hemoglobin A1c</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GHQ</td>
<td>Quality Cross Check, Hemoglobin A1c</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN15</td>
<td>Hemoglobin A1, Cal Ver/Lin</td>
<td>128</td>
</tr>
<tr>
<td>Hemoglobin A2 quantitation</td>
<td>X</td>
<td>HG</td>
<td>Hemoglobinopathy</td>
<td>145</td>
</tr>
<tr>
<td>Hemoglobin electrophoresis</td>
<td>X</td>
<td>HG</td>
<td>Hemoglobinopathy</td>
<td>145</td>
</tr>
<tr>
<td>Hemoglobin, estimated</td>
<td>X</td>
<td>A0Q, A02Q, A03Q, A04Q</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A0Q, A02Q, A03Q, A04Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC10, POC11</td>
<td>POC Competency Blood Gases</td>
<td>55</td>
</tr>
<tr>
<td>Hematologic disorders by FISH</td>
<td>CYF</td>
<td>Fluent In Situ Hybridization and Interpretation on Site</td>
<td>254</td>
<td></td>
</tr>
<tr>
<td>Hematology bone marrow case studies</td>
<td>BMD</td>
<td>Bone Marrow Cell Differential</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>Hematology case studies</td>
<td>VPBS</td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Hematology peripheral blood case studies</td>
<td>EHE1</td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Hematopathology online education</td>
<td>HPATH,</td>
<td>Hematopathology Online Education</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPATH1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemochromatosis (HFE gene)</td>
<td>X</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Hemocytometer fluid count</td>
<td>X</td>
<td>HFC, HFCI</td>
<td>Hemocytometer Fluid Count</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td>Hemoglobin</td>
<td>X</td>
<td>HCC</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN9</td>
<td>Hematology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC7</td>
<td>POC/Waived Glucose and Hemoglobin Competency</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCP</td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>SO</td>
<td>Blood Oximetry</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SOQ</td>
<td>Quality Cross Check, Blood Oximetry</td>
<td>44</td>
</tr>
<tr>
<td>Hemoglobin A1c</td>
<td>X</td>
<td>GH2, GH5, GH5</td>
<td>Hemoglobin A1c</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GHQ</td>
<td>Quality Cross Check, Hemoglobin A1c</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN15</td>
<td>Hemoglobin A1, Cal Ver/Lin</td>
<td>128</td>
</tr>
<tr>
<td>Hemoglobin A2 quantitation</td>
<td>X</td>
<td>HG</td>
<td>Hemoglobinopathy</td>
<td>145</td>
</tr>
<tr>
<td>Hemoglobin electrophoresis</td>
<td>X</td>
<td>HG</td>
<td>Hemoglobinopathy</td>
<td>145</td>
</tr>
<tr>
<td>Hemoglobin, estimated</td>
<td>X</td>
<td>A0Q, A02Q, A03Q, A04Q</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A0Q, A02Q, A03Q, A04Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC10, POC11</td>
<td>POC Competency Blood Gases</td>
<td>55</td>
</tr>
<tr>
<td>Hematologic disorders by FISH</td>
<td>CYF</td>
<td>Fluent In Situ Hybridization and Interpretation on Site</td>
<td>254</td>
<td></td>
</tr>
<tr>
<td>Hematology bone marrow case studies</td>
<td>BMD</td>
<td>Bone Marrow Cell Differential</td>
<td>144</td>
<td></td>
</tr>
<tr>
<td>Hematology case studies</td>
<td>VPBS</td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Hematology peripheral blood case studies</td>
<td>EHE1</td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Hematopathology online education</td>
<td>HPATH,</td>
<td>Hematopathology Online Education</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HPATH1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemochromatosis (HFE gene)</td>
<td>X</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Hemocytometer fluid count</td>
<td>X</td>
<td>HFC, HFCI</td>
<td>Hemocytometer Fluid Count</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td>Hemolytic complement, total</td>
<td>CH50</td>
<td>Total Hemolytic Complement</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>Hemosiderin, urine</td>
<td>SCM1</td>
<td>Special Clinical Microscopy</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Heparin assay</td>
<td>CGS4</td>
<td>Coag Special, Series 4</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Heparin-induced thrombocytopenia</td>
<td>CGE/CGEX</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Heparin, low molecular weight</td>
<td>LN36</td>
<td>Heparin Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Heparin, unfractionated</td>
<td>LN36</td>
<td>Heparin Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td>Heparin/platelet Factor IV</td>
<td>CGS5</td>
<td>Coag Special, HIT</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Hepatitis B virus</td>
<td>X</td>
<td>HBVL, HBVL5</td>
<td>Hepatitis Viral Load</td>
<td>205</td>
</tr>
<tr>
<td>Hepatitis C virus</td>
<td>X</td>
<td>HCV2</td>
<td>Hepatitis Viral Load, Genotyping and Qualitative</td>
<td>205</td>
</tr>
<tr>
<td>HER2 by immunohistochemistry</td>
<td>X</td>
<td>HER2</td>
<td>HER2 by Immunohistochemistry</td>
<td>297</td>
</tr>
<tr>
<td>HER2 by molecular testing</td>
<td>X</td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td>HER2, gastric</td>
<td>X</td>
<td>GHER2</td>
<td>Gastric HER2</td>
<td>297</td>
</tr>
<tr>
<td>HER2 (ERBB2) gene amplification by FISH, hybridization and interpretation only</td>
<td>X</td>
<td>CYH</td>
<td>FISH for ERBB2 (HER2) Amplification</td>
<td>255</td>
</tr>
<tr>
<td>HER2 (ERBB2) gene amplification by FISH, interpretation only</td>
<td>CYH</td>
<td>FISH for ERBB2 (HER2) Amplification, Interpretation Only Exercise</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>HER2 (ERBB2) gene amplification by ISH</td>
<td>X</td>
<td>ISH2</td>
<td>In Situ Hybridization</td>
<td>274</td>
</tr>
<tr>
<td>Herpes simplex virus (HSV)</td>
<td>X</td>
<td>HC4</td>
<td>HSV Culture</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID5</td>
<td>HSV, Molecular</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Viral Antibigen by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR3</td>
<td>Antibody Detection–Infectious Disease Serology</td>
<td>213</td>
</tr>
<tr>
<td>HHV6</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VLS2</td>
<td>Viral Load</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td>HHV8</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HSCRPR</td>
<td>hsCRP</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN21</td>
<td>High-Sensitivity C-Reactive Protein Cal Ver/Lin</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>Histidine</td>
<td>BGL2</td>
<td>CAP/ACMB Amino Acid Quatitation</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Histotechnology quality improvement</td>
<td>HQIP</td>
<td>HistoQIP</td>
<td>287</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>-----</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>HLA molecular typing</td>
<td>X</td>
<td>DML</td>
<td>HLA Molecular Typing</td>
<td>248</td>
</tr>
<tr>
<td>Homocysteine quantitative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HMD</td>
<td>Homocysteine</td>
<td>68</td>
</tr>
<tr>
<td>Homovanillic acid</td>
<td>X</td>
<td>N/NX</td>
<td>Urine Chemistry~Special</td>
<td>73</td>
</tr>
<tr>
<td>HPV (cytopathology), high-risk</td>
<td>X</td>
<td>CHPV</td>
<td>Digene Specimen Transport Medium</td>
<td>308</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CHPVJ</td>
<td>Mixed Medium</td>
<td>308</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CHPVK</td>
<td>SurePath Preservative Fluid Transport Medium</td>
<td>308</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CHPVM</td>
<td>ThinPrep PreservCyt Transport Medium</td>
<td>308</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>PV</td>
<td>Digene Hybrid Capture Technology Only</td>
<td>202</td>
</tr>
<tr>
<td>HSV</td>
<td>X</td>
<td>HC4</td>
<td>HSV Culture</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID5</td>
<td>Herpes Simplex Virus, Molecular</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Viral Antigen by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR3</td>
<td>Antibody Detection—Infectious Disease Serology</td>
<td>213</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), serum</td>
<td>X</td>
<td>C1, C3/C3X, C4, CZ/C2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C2O</td>
<td>Quality Cross Check, Chemistry and TDM</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>FP/FPX, FP1T</td>
<td>Maternal Screen</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HCG, IL</td>
<td>Immunology</td>
<td>216</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand—General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>LN5</td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>LN5S</td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LN8</td>
<td>Reproductive Endocrinology Cal Ver/Lin</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>SCO</td>
<td>Serum Carryover</td>
<td>138</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), urine</td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human chorionic gonadotropin (hCG), urine (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (cytology) high-risk</td>
<td>X</td>
<td>CHPV</td>
<td>Digene Specimen Transport Medium</td>
<td>308</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CHPVJ</td>
<td>Mixed Medium</td>
<td>308</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CHPVK</td>
<td>SurePath Preservative Fluid Transport Medium</td>
<td>308</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CHPVM</td>
<td>ThinPrep PreservCyt Transport Medium</td>
<td>308</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HPV</td>
<td>Digene Hybrid Capture Technology Only</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ISH</td>
<td>In Situ Hybridization</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (high-risk) for cytopathology genotyping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human parechovirus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huntington disease (HTT gene)</td>
<td>X</td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human chorionic gonadotropin (hCG), urine</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td>Human chorionic gonadotropin (hCG), urine (cont.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human metapneumovirus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (cytology) high-risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (high-risk) for cytopathology genotyping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human parechovirus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huntington disease (HTT gene)</td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>DFC</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Program Code</td>
<td>Drug Monitoring for Pain Management</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Program Code</td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Program Code</td>
<td>Oral Fluid for Drugs of Abuse</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>T</td>
<td>Toxicology</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Program Code</td>
<td>Urine Drug Screen</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>UT</td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>DFC</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Program Code</td>
<td>Drug Monitoring for Pain Management</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Program Code</td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Program Code</td>
<td>Oral Fluid for Drugs of Abuse</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>T</td>
<td>Toxicology</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>UT</td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>Hydroxyproline quantitative</td>
<td>BGL2</td>
<td>Program Code</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
</tr>
<tr>
<td>Hydroxybutyron</td>
<td>FTC</td>
<td>Program Code</td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>T</td>
<td>Toxicology</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>UT</td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>Hydroxyzine</td>
<td>DFC</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Program Code</td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>T</td>
<td>Toxicology</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>UT</td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>FTC</td>
<td>Program Code</td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>T</td>
<td>Toxicology</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>UT</td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>iDH1</td>
<td>X</td>
<td>GLI</td>
<td>Gioma</td>
</tr>
<tr>
<td>iDH2</td>
<td>X</td>
<td>GLI</td>
<td>Gioma</td>
</tr>
<tr>
<td>IgA</td>
<td>X</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>LN7</td>
<td>Immunology Cal Ver/Lin</td>
</tr>
<tr>
<td>IgA, electrophoresis</td>
<td>X</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
</tr>
<tr>
<td>IgD</td>
<td>S2, S4</td>
<td>Program Code</td>
<td>Immunology, Special</td>
</tr>
<tr>
<td>IgE</td>
<td>X</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand–General</td>
</tr>
<tr>
<td>IgE allergen-specific, quantitative</td>
<td>X</td>
<td>SE</td>
<td>Diagnostic Allergy</td>
</tr>
<tr>
<td>IgE multi-allergen screen</td>
<td>X</td>
<td>SE</td>
<td>Diagnostic Allergy</td>
</tr>
<tr>
<td>IgF-1 (somatomedin C)</td>
<td>X</td>
<td>BGS</td>
<td>Bone and Growth</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>YYY</td>
<td>Sex Hormones</td>
</tr>
<tr>
<td>IgG</td>
<td>X</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
</tr>
<tr>
<td></td>
<td>L N7</td>
<td>Program Code</td>
<td>Immunology Cal Ver/Lin</td>
</tr>
<tr>
<td></td>
<td>S2, S4</td>
<td>Program Code</td>
<td>Immunology, Special</td>
</tr>
<tr>
<td>IgG subclass proteins</td>
<td>S2, S4</td>
<td>Program Code</td>
<td>Immunology, Special</td>
</tr>
<tr>
<td>IgG, CSF</td>
<td>X</td>
<td>M, OL1</td>
<td>CSF Chemistry and Oligoclonal Bands</td>
</tr>
<tr>
<td>IgG, electrophoresis</td>
<td>X</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
</tr>
<tr>
<td></td>
<td>IGHV</td>
<td>IGHV</td>
<td>Mutation Analysis</td>
</tr>
<tr>
<td>IgM</td>
<td>X</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
</tr>
<tr>
<td></td>
<td>L N7</td>
<td>Program Code</td>
<td>Immunology Cal Ver/Lin</td>
</tr>
<tr>
<td>IIM, electrophoresis</td>
<td>X</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
</tr>
<tr>
<td>IL-2</td>
<td>CTKN</td>
<td>Program Code</td>
<td>Cytokines</td>
</tr>
<tr>
<td>IL-6</td>
<td>CTKN</td>
<td>Program Code</td>
<td>Cytokines</td>
</tr>
<tr>
<td>IL-8</td>
<td>CTKN</td>
<td>Program Code</td>
<td>Cytokines</td>
</tr>
<tr>
<td>IL-10</td>
<td>CTKN</td>
<td>Program Code</td>
<td>Cytokines</td>
</tr>
<tr>
<td>IL-28</td>
<td>P G X1</td>
<td>Program Code</td>
<td>Pharmacogenetics</td>
</tr>
<tr>
<td>Imipramine</td>
<td>FTC</td>
<td>Program Code</td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>T</td>
<td>Toxicology</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>UT</td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>Immune granulocyte parameter</td>
<td>X</td>
<td>ZT</td>
<td>TDM, Special</td>
</tr>
<tr>
<td>Immune platelet fraction (IPF)</td>
<td>FH9, FH9P, FH17, FH17P</td>
<td>Program Code</td>
<td>Hematology Automated Differential</td>
</tr>
<tr>
<td>Immune platelet fraction (IPF)</td>
<td>FH9Q</td>
<td>Program Code</td>
<td>Quality Cross Check - Hematology</td>
</tr>
<tr>
<td>Immune platelet fraction (IPF)</td>
<td>FH9, FH9P, FH17, FH17P</td>
<td>Program Code</td>
<td>Hematology Automated Differential</td>
</tr>
<tr>
<td>Immune reticulocyte fraction (IRF)</td>
<td>FH9Q</td>
<td>Program Code</td>
<td>Quality Cross Check - Hematology</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>B R A F V</td>
<td>Program Code</td>
<td>B R A F V 600E</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>CD 30</td>
<td>Program Code</td>
<td>CD 30 Immunohistochemistry</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>D P I H C</td>
<td>Program Code</td>
<td>Dermatopathology Immunohistochemistry</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>X</td>
<td>G H E R 2</td>
<td>Gastric HER2</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>X</td>
<td>HER2</td>
<td>HER2 by Immunohistochemistry</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>K I 6 7</td>
<td>Program Code</td>
<td>Ki-67 Immunohistochemistry TMA</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>M K</td>
<td>Program Code</td>
<td>Immunohistochemistry</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>M M R</td>
<td>Program Code</td>
<td>DNA Mismatch Repair</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>M Y C B</td>
<td>Program Code</td>
<td>c-Myc/Bcl-2 Immunohistochemistry TMA</td>
</tr>
<tr>
<td>Analyte/Procedure (cont.)</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Immunohistochemistry</td>
<td>PS3</td>
<td>pS3</td>
<td>Immunohistochemistry TMA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PDL1</td>
<td>PD-L1</td>
<td>Immunohistochemistry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM1</td>
<td>CD117 by</td>
<td>Immunohistochemistry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM2</td>
<td>ER, PR by</td>
<td>Immunohistochemistry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM3</td>
<td>CD20 by</td>
<td>Immunohistochemistry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM5</td>
<td>Immunohistochemistry TMA</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>XPM6</td>
<td>Anaplastic Lymphoma Kinase IHC</td>
<td>298</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In situ hybridization</td>
<td>X ISH</td>
<td>In Situ Hybridization</td>
<td>274</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ISH2</td>
<td>In Situ Hybridization HER2</td>
<td>274</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>India ink</td>
<td>IND</td>
<td>India Ink</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious disease,</td>
<td>X IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>pneumonia panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infectious mononucleosis</td>
<td>X IL, IM</td>
<td>Immunology</td>
<td></td>
</tr>
<tr>
<td>(IM)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IMW</td>
<td>Infectious Mononucleosis, Waived</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza virus</td>
<td>ID2</td>
<td>Nucleic Acid Amp, Resp</td>
<td>204</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID3Q</td>
<td>Quality Cross Check–Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC8</td>
<td>POC Influenza A/B Ag</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X VR4</td>
<td>Viral Antigen Detection by EIA and Latex</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informatics</td>
<td>ICBE, ICBE1</td>
<td>Informatics Essentials for Pathologists</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ICSP</td>
<td>Inherited Cancer Sequencing Panel</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument function</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument linearity</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN11</td>
<td>Serum Ethanol Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN12</td>
<td>C-Reactive Protein Cal Ver/Lin</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN13, LN13C</td>
<td>Blood Gas Cal Ver/Lin</td>
<td>128</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure (cont.)</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument linearity</td>
<td>LN15</td>
<td>Hemoglobin A1, Cal Ver/Lin</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN16</td>
<td>Homocysteine Cal Ver/Lin</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN17</td>
<td>Whole Blood Glucose Cal Ver/Lin</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN18, LN19</td>
<td>Reticulocyte Cal Ver/Lin</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN20</td>
<td>Urine Albumin Cal Ver/Lin</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN21</td>
<td>High–Sensitivity C-Reactive Protein Cal Ver/Lin</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN22</td>
<td>Flow Cytometry Cal Ver/Lin</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN23</td>
<td>PSA Cal Ver/Lin</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN24</td>
<td>Creatinine Accuracy Cal Ver/Lin</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN25</td>
<td>Troponin I Cal Ver/Lin</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN27</td>
<td>Troponin T Cal Ver/Lin</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN30</td>
<td>BNP Cal Ver/Lin</td>
<td>131</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN31</td>
<td>Immunosuppressive Drugs Cal Ver/Lin</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN32</td>
<td>Ammonia Cal Ver/Lin</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN33</td>
<td>Serum Myoglobin Cal Ver/Lin</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN34</td>
<td>Tumor Markers Cal Ver/Lin</td>
<td>132</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN35</td>
<td>Thrombophilia Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN36</td>
<td>Heparin Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN37</td>
<td>von Willebrand Factor Ag Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN38</td>
<td>CMV Viral Load Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN39</td>
<td>HIV Viral Load Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN40</td>
<td>Vitamin D Cal Ver/Lin</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN41</td>
<td>Procalcitonin Cal Ver/Lin</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN42</td>
<td>D-Dimer Cal Ver/Lin</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN44</td>
<td>Fibrinogen Cal Ver/Lin</td>
<td>134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN45</td>
<td>HCV Viral Load Cal Ver/Lin</td>
<td>133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN46</td>
<td>C-Peptide/Insulin Cal Ver/Lin</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN47</td>
<td>High–Sensitivity Troponin T Cal Ver/Lin</td>
<td>135</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Instrument linearity (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN48</td>
<td>High-Sensitivity Troponin I Cal Ver/Lin</td>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN5</td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LNSS</td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN7</td>
<td>Immunology Cal Ver/Lin</td>
<td>126</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN8</td>
<td>Reproductive Endocrinology Cal Ver/Lin</td>
<td>127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN9</td>
<td>Hematology Cal Ver/Lin</td>
<td>127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABGIC</td>
<td>Accuracy-Based Glucose, Insulin, and C-Peptide</td>
<td>119</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ING</td>
<td>Insulin, Gastrin, C-Peptide, PTH</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LN46</td>
<td>C-Peptide/Insulin Cal Ver/Lin</td>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interferon (IFN) gamma</td>
<td>CTKN</td>
<td>Cytokines</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Interleukin (IL)-1 beta</td>
<td>CTKN</td>
<td>Cytokines</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>International normalized ratio (INR)</td>
<td>X</td>
<td>CGB</td>
<td>Basic Coagulation</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>CGL</td>
<td>Coagulation, Limited</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CGS1</td>
<td>Coag Special, Series 1</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CGS4</td>
<td>Coag Special, Series 4</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC6</td>
<td>POC PT/INR, CoaguChek XS Plus</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>WP10</td>
<td>Whole Blood Coagulation</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>WP3, WP4, WP6, WP9</td>
<td>Whole Blood Coagulation</td>
<td>172</td>
</tr>
<tr>
<td>Ionized calcium</td>
<td>X</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AQQ, AQ2O, AQ3O, AQ4O</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C3/C3X, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>POC10, POC11</td>
<td>POC Competency Blood Gases</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Isoleucine quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Isopropanol</td>
<td>X</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
</tr>
<tr>
<td>Itraconazole</td>
<td>AFD</td>
<td>Antifungal Drugs Monitoring</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>JC virus</td>
<td>ID1T</td>
<td>Nucleic Acid Amp, JC and BK</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td>Jo-1 (antihistidyl t-RNA synthetase)</td>
<td>RDS</td>
<td>Rheumatic Disease Special</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>Kappa/Lambda</td>
<td>X</td>
<td>ISH</td>
<td>In Situ Hybridization</td>
<td>274</td>
</tr>
<tr>
<td>Kappa/Lambda ratio</td>
<td>IG/IGX</td>
<td>Immunology, General</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S2, S4</td>
<td>Immunology, Special</td>
<td>217</td>
<td></td>
</tr>
<tr>
<td>Karyotype nomenclature</td>
<td>CY, CYBK</td>
<td>Cytogenetics</td>
<td>254</td>
<td></td>
</tr>
<tr>
<td>Ketamine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Ketones, serum</td>
<td>KET</td>
<td>Ketones</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Ketones, urine</td>
<td>CMRP</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC3</td>
<td>POC Urine Dipstick Competency</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td>Ki-67</td>
<td>KI67</td>
<td>Ki-67 Immunohistochemistry TMA</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Kidney stone risk assessment</td>
<td>KSA</td>
<td>Kidney Stone Risk Assessment</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Kingella kingae</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>KIT</td>
<td>X</td>
<td>KIT/KIT/PDGFR</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td>Klebsiella aerogenes</td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Klebsiella oxytoca</td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Klebsiella pneumoniae group</td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>KOH prep (skin)</td>
<td>X</td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
</tr>
<tr>
<td>KOH prep (skin or vaginal)</td>
<td>FSM</td>
<td>Fungal Smear</td>
<td>197</td>
<td></td>
</tr>
<tr>
<td>KRAS</td>
<td>X</td>
<td>KRAS</td>
<td>Colorectal Cancer Mutation</td>
<td>276</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td>Laboratory preparedness exercise</td>
<td>LPX</td>
<td>Laboratory Preparedness Exercise</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-----------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Analyte/Procedure Index</td>
<td></td>
<td></td>
<td></td>
<td>22</td>
</tr>
<tr>
<td>LDL cholesterol, measured</td>
<td>X</td>
<td>ABL</td>
<td>Accuracy-Based Lipid</td>
<td>116</td>
</tr>
<tr>
<td>LDL cholesterol, waived</td>
<td>X</td>
<td>LCW</td>
<td>Chemistry–Ltd, Waived</td>
<td>68</td>
</tr>
<tr>
<td>Lead, blood</td>
<td>X</td>
<td>BL</td>
<td>Blood Lead</td>
<td>107</td>
</tr>
<tr>
<td>Lead, urine</td>
<td>TMU</td>
<td></td>
<td>Trace Metals, Urine</td>
<td>108</td>
</tr>
<tr>
<td>Legionella pneumophila antigen</td>
<td>LBAS</td>
<td></td>
<td>Legionella Ag</td>
<td>184</td>
</tr>
<tr>
<td>Legionella pneumophila</td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td>Leucine quantitative</td>
<td>BGL2</td>
<td></td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Leukemia/lymphoma</td>
<td>FL3</td>
<td>Flow Cytometry</td>
<td></td>
<td>224</td>
</tr>
<tr>
<td>Leukemia/lymphoma,</td>
<td>FL5</td>
<td>Flow Cytometry Interpretation Only</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>Leukocyte esterase, urine</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Leukocyte, stool, Wright-Giemsa</td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>Lactate</td>
<td>AQ, AQ2,</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Lactate, CSF</td>
<td>M, OLI</td>
<td>CSF Chemistry and Oligoclonal Bands</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Lactate dehydrogenase (LD)</td>
<td>X</td>
<td>C1, C3/C3X,</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZ/CZX/CZ2X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lamellar body count</td>
<td>LBC</td>
<td>Lamellar Body Count</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>Lamotrigine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Large unstained cells (LUC)</td>
<td>FH4, FH4P</td>
<td>Hematology Automated Differential</td>
<td>141</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH4Q</td>
<td>Quality Cross Check - Hematology</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>LD isoenzymes</td>
<td>X</td>
<td>CRTI, HCRTI</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td>LD1/LD2 ratio</td>
<td>X</td>
<td>CRTI, HCRTI</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td>LDL cholesterol, calculated</td>
<td>X</td>
<td>ABL</td>
<td>Accuracy-Based Lipid</td>
<td>116</td>
</tr>
<tr>
<td>Lead, blood</td>
<td>X</td>
<td>BL</td>
<td>Blood Lead</td>
<td>107</td>
</tr>
<tr>
<td>Lead, urine</td>
<td>TMU</td>
<td></td>
<td>Trace Metals, Urine</td>
<td>108</td>
</tr>
<tr>
<td>Legionella pneumophila antigen</td>
<td>LBAS</td>
<td></td>
<td>Legionella Ag</td>
<td>184</td>
</tr>
<tr>
<td>Legionella pneumophila</td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td>Leucine quantitative</td>
<td>BGL2</td>
<td></td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Leukemia/lymphoma</td>
<td>FL3</td>
<td>Flow Cytometry</td>
<td></td>
<td>224</td>
</tr>
<tr>
<td>Leukemia/lymphoma,</td>
<td>FL5</td>
<td>Flow Cytometry Interpretation Only</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>Leukocyte esterase, urine</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Leukocyte, stool, Wright-Giemsa</td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>Levotiracetam</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Levorphanol</td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Lidocaine</td>
<td>X</td>
<td>CZ/CZX/CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Lipase</td>
<td>X</td>
<td>C3/C3X, CZ/CZX/CZX2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLD2</td>
<td>Body Fluid Chemistry 2</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Lipids</td>
<td>ABL</td>
<td>Accuracy-Based Lipid</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Lipoprotein (a)</td>
<td>X</td>
<td>ABL</td>
<td>Accuracy-Based Lipid</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Listeria monocytogenes</td>
<td>X</td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Lithium</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Liver-kidney microsomal antibody</td>
<td>LKM</td>
<td>Liver-Kidney Microsomal Antibody</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>Lorazepam</td>
<td>DFC</td>
<td>Drug Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Magnesium, ionized</td>
<td>X</td>
<td>AQ, AQQ</td>
<td>Critical Care Blood Gas Series</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AQ, AQQ</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC10, POC11</td>
<td>POC Competency Blood Gases</td>
<td>55</td>
</tr>
<tr>
<td>Magnesium, urine</td>
<td>X</td>
<td>U</td>
<td>Urine Chemistry General</td>
<td>72</td>
</tr>
<tr>
<td>Malaria</td>
<td>RMAL</td>
<td>Rapid Malaria</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>R</td>
<td>Trace Metals</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Manganese, urine</td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Manganese, whole blood</td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Mature B-cell leukemia lymphoma minimal residual disease</td>
<td>FL8</td>
<td>Flow Cytometry Mature B-Cell Leukemia/ Lymphoma Minimal Residual Disease</td>
<td>226</td>
<td></td>
</tr>
<tr>
<td>MCAD</td>
<td>X</td>
<td>IMD2</td>
<td>MCAD</td>
<td>262</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>RETT</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>RETT</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MGL3</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FT C</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

---

**Analyte/Procedure Index**

*College of American Pathologists*

2023 Surveys & Anatomic Pathology Education Programs
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methamphetamine (cont.)</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Methanol</td>
<td>X</td>
<td>AL1</td>
<td>Whole Blood Alcohol/Volatiles</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
</tr>
<tr>
<td>Methaqualone</td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
</tr>
<tr>
<td>Methemoglobin</td>
<td>X</td>
<td>SO</td>
<td>Blood Oximetry</td>
</tr>
<tr>
<td></td>
<td>SOQ</td>
<td>Quality Cross Check, Blood Oximetry</td>
<td>44</td>
</tr>
<tr>
<td>Methionine, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Methicillin-resistant Staphylococcus aureus (MRSA)</td>
<td>BCS1</td>
<td>Blood Culture Staphylococcus aureus</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td>MRS</td>
<td>Methicillin-resistant S. aureus Screen</td>
<td>189</td>
</tr>
<tr>
<td></td>
<td>MRS2M</td>
<td>MRSA Screen, Molecular, 2 Challenge</td>
<td>189</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MRS5</td>
<td>Methicillin-resistant S. aureus Screen</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MRS5M</td>
<td>MRSA Screen, Molecular, 5 Challenge</td>
</tr>
<tr>
<td>Methotrexate</td>
<td>X</td>
<td>CZ/CZ2X, Z</td>
<td>Chemistry and TDM</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Methylxenodioxyamphetamine (MDA)</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Methylxenodioxyethylamphetamine (MDEA)</td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td>Methylxenodioxy-methamphetamine (MDMA)</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Methylxenodioxy-pyrovalerone (MDPV)</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Methylxenodioxy-hydrofolute reductase (MTHFR gene)</td>
<td>X</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>Methylmalonic acid</td>
<td>MMA</td>
<td>MMA and Active B12</td>
<td>86</td>
</tr>
<tr>
<td>Methylphenidate</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Metoprolol</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>MGMT</td>
<td>GLI</td>
<td>Glioma</td>
<td>277</td>
</tr>
<tr>
<td>Microalbumin, urine</td>
<td>LN20</td>
<td>Urine AlbuminCal Ver/Line</td>
<td>130</td>
</tr>
<tr>
<td>Microsatellite instability</td>
<td>X</td>
<td>MSI</td>
<td>Microsatellite Instability</td>
</tr>
<tr>
<td>Microarray, constitutional disorders</td>
<td>CYCGH</td>
<td>Constitutional Microarray Analysis</td>
<td>256</td>
</tr>
<tr>
<td>Microarray, neoplastic disorders</td>
<td>CYCMA</td>
<td>Cyto genetic Microarray Analysis for Oncologic Abnormality</td>
<td>256</td>
</tr>
<tr>
<td>Microtiter plate reader linearity</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
</tr>
<tr>
<td>Midazolam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----</td>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Minimal residual disease</td>
<td>BALL</td>
<td></td>
<td>B-ALL Minimal Residual Disease</td>
</tr>
<tr>
<td>FL8</td>
<td></td>
<td></td>
<td>Flow Cytometry Mature B-Cell Leukemia/ Lymphoma Minimal Residual Disease</td>
</tr>
<tr>
<td>FL9</td>
<td></td>
<td></td>
<td>Flow Cytometry Plasma Cell Myeloma Minimal Residual Disease</td>
</tr>
<tr>
<td>MRD</td>
<td></td>
<td></td>
<td>Minimal Residual Disease, BCR/ABL1 p210</td>
</tr>
<tr>
<td>MRD1</td>
<td></td>
<td></td>
<td>Minimal Residual Disease, BCR/ABL1 p190</td>
</tr>
<tr>
<td>MRD2</td>
<td></td>
<td></td>
<td>Minimal Residual Disease, BCR/ABL1 p190</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>T</td>
<td></td>
<td>Toxicology</td>
</tr>
<tr>
<td>Mite identification</td>
<td>TMO</td>
<td></td>
<td>Ticks, Mites, and Other Arthropods</td>
</tr>
<tr>
<td>Mitochondrial cytopathies</td>
<td>IMD3</td>
<td></td>
<td>Mitochondrial Cytopathies</td>
</tr>
<tr>
<td>Mitochondrial DNA deletion syndromes</td>
<td>IMD1</td>
<td></td>
<td>Mitochondrial DNA Deletion Syndromes</td>
</tr>
<tr>
<td>Mitragynine (Kratom)</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
</tr>
<tr>
<td>Mitragynine (Kratom)</td>
<td>T</td>
<td></td>
<td>Toxicology</td>
</tr>
<tr>
<td>Mite identification</td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
</tr>
<tr>
<td>Mixing studies, aPTT</td>
<td>CGE/CGEX</td>
<td></td>
<td>Coagulation, Extended</td>
</tr>
<tr>
<td>Mixing studies, PT</td>
<td>CGE/CGEX</td>
<td></td>
<td>Coag Special, Series 1</td>
</tr>
<tr>
<td>MLH1 promoter methylation analysis</td>
<td>MSI</td>
<td></td>
<td>Defective DNA Mismatch Repair/ Hereditary Nonpolyposis Colorectal Cancer (HNPPC)</td>
</tr>
<tr>
<td>Modified acid-fast stain</td>
<td>P, P3, P4, P5</td>
<td></td>
<td>Parasitology</td>
</tr>
<tr>
<td>Mold identification</td>
<td>F</td>
<td></td>
<td>Mycology and Aerobic Actinomycetes</td>
</tr>
<tr>
<td>Molecular genetics</td>
<td>MGL1, MGL2, MGL3, MGL4, MGL5</td>
<td></td>
<td>Molecular Genetics</td>
</tr>
<tr>
<td>Molecular hematologic oncology</td>
<td>MHO, MHO1, MHO2, MHO3</td>
<td></td>
<td>Molecular Hematologic Oncology</td>
</tr>
<tr>
<td>Mucolipidosis IV (MCOLN1 gene)</td>
<td>MGL4</td>
<td></td>
<td>Molecular Genetics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular HLA typing</td>
<td>DML</td>
<td></td>
<td>HLA Molecular Typing</td>
<td>248</td>
</tr>
<tr>
<td>Molecular typing</td>
<td>IDN, IDO</td>
<td></td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td>Monitoring engraftment</td>
<td>ME</td>
<td></td>
<td>Monitoring Engraftment</td>
<td>250</td>
</tr>
<tr>
<td>Mononuclear cell count</td>
<td>CBT</td>
<td></td>
<td>Cord Blood Testing</td>
<td>239</td>
</tr>
<tr>
<td>Stem Cell Processing</td>
<td>SCP</td>
<td></td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td>Moraxella catarrhalis</td>
<td>IDPN</td>
<td></td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Morganella morganii</td>
<td>JIP</td>
<td></td>
<td>Joint Infection Panel</td>
<td>208</td>
</tr>
<tr>
<td>Morphine</td>
<td>DFC</td>
<td></td>
<td>Drug--Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td>Drug Monitoring for Pain Management</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Oral Fluid for Drugs of Abuse</td>
<td>OFD</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>105</td>
</tr>
<tr>
<td>Toxicology</td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>UDC</td>
<td></td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td>Urine Toxicology</td>
<td>UT</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>M-protein (paraprotein) identification</td>
<td>SPE</td>
<td></td>
<td>Protein Electrophoresis</td>
<td>80</td>
</tr>
<tr>
<td>MPL</td>
<td>MPOX</td>
<td></td>
<td>Molecular Hematologic Oncology</td>
<td>278</td>
</tr>
<tr>
<td>MH3</td>
<td>HE, HEP</td>
<td></td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td>MRSA</td>
<td>BCS1</td>
<td></td>
<td>Blood Culture Staphylococcus aureus</td>
<td>185</td>
</tr>
<tr>
<td>Nucleic Acid Amp, Organisms</td>
<td>IDN, IDO</td>
<td></td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td>Methicillin-resistant S. aureus Screen</td>
<td>MRS</td>
<td></td>
<td>Methicillin-resistant S. aureus Screen</td>
<td>189</td>
</tr>
<tr>
<td>MRSA Screen, Molecular, 2 Challenge</td>
<td>MRS2M</td>
<td></td>
<td>Methicillin-resistant S. aureus Screen</td>
<td>189</td>
</tr>
<tr>
<td>MRSA Screen, Molecular, 5 Challenge</td>
<td>MRSSM</td>
<td></td>
<td>Methicillin-resistant S. aureus Screen</td>
<td>189</td>
</tr>
<tr>
<td>Mucolipidosis IV (MCOLN1 gene)</td>
<td>MGL4</td>
<td></td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----</td>
<td>--------------</td>
<td>------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Mucopolysaccharide (Glycosaminoglycan)</td>
<td>X</td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
</tr>
<tr>
<td>Multiple endocrine neoplasia type 2 (RET gene)</td>
<td>X</td>
<td>MGL3</td>
<td>Molecular Genetics</td>
<td>257</td>
</tr>
<tr>
<td>Mumps-IgG</td>
<td></td>
<td></td>
<td>Virology</td>
<td>213</td>
</tr>
<tr>
<td>Mycobacterial culture</td>
<td>X</td>
<td>E1</td>
<td>Mycobacteriology, Ltd</td>
<td>194</td>
</tr>
<tr>
<td>Mycobacterial identification</td>
<td>X</td>
<td>E</td>
<td>Mycobacteriology</td>
<td>194</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis</td>
<td></td>
<td>IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis antibody detection</td>
<td></td>
<td>QF</td>
<td><em>M. tuberculosis</em> Infection Detection</td>
<td>221</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis identification and resistance detection</td>
<td></td>
<td>MTBR</td>
<td>Molecular MTB Detection and Resistance</td>
<td>194</td>
</tr>
<tr>
<td>MTR5</td>
<td></td>
<td></td>
<td>Molecular MTB Detection and Resistance, 5 challenge</td>
<td>194</td>
</tr>
<tr>
<td>Mycophenolic acid</td>
<td>X</td>
<td>MPA</td>
<td>Mycophenolic Acid</td>
<td>62</td>
</tr>
<tr>
<td>Mycoplasma genitalium</td>
<td></td>
<td>MGEN</td>
<td><em>Mycoplasma genitalium</em>, Molecular</td>
<td>192</td>
</tr>
<tr>
<td>Mycoplasma pneumonia</td>
<td></td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
</tr>
<tr>
<td>Myoglobin</td>
<td>X</td>
<td>CRT, CRTI, HCRT, HCRTI</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td>Myoglobin, urine</td>
<td></td>
<td>MYG</td>
<td>Myoglobin, Urine</td>
<td>73</td>
</tr>
<tr>
<td>Mystocytic dystrophy (DMPK gene)</td>
<td>X</td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td>X</td>
<td>CZ/CZX, CZZX, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>N-desmethyltramadol</td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>FTC</td>
<td></td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>N-desmethyltramadol (cont.)</td>
<td></td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Nasal smears, eosinophil</td>
<td></td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
</tr>
<tr>
<td>Neisseria gonorrhoeae</td>
<td>X</td>
<td>D3</td>
<td>GC Cultures</td>
<td>179</td>
</tr>
<tr>
<td>Neisseria meningitidis</td>
<td></td>
<td>HC6/HC6X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
</tr>
<tr>
<td>Neoplastic cellularity</td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Neutrophil</td>
<td></td>
<td>IDN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Next-generation sequencing</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin, urine</td>
<td></td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td>X</td>
<td>CZ/CZX, CZZX, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>N-desmethyltramadol</td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>FTC</td>
<td></td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>N-desmethyltramadol (cont.)</td>
<td></td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Nasal smears, eosinophil</td>
<td></td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
</tr>
<tr>
<td>Neisseria gonorrhoeae</td>
<td>X</td>
<td>D3</td>
<td>GC Cultures</td>
<td>179</td>
</tr>
<tr>
<td>Neisseria meningitidis</td>
<td></td>
<td>HC6/HC6X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
</tr>
<tr>
<td>Neoplastic cellularity</td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Neutrophil</td>
<td></td>
<td>IDN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Next-generation sequencing</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin, urine</td>
<td></td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td>X</td>
<td>CZ/CZX, CZZX, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>N-desmethyltramadol</td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>FTC</td>
<td></td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>N-desmethyltramadol (cont.)</td>
<td></td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Nasal smears, eosinophil</td>
<td></td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
</tr>
<tr>
<td>Neisseria gonorrhoeae</td>
<td>X</td>
<td>D3</td>
<td>GC Cultures</td>
<td>179</td>
</tr>
<tr>
<td>Neisseria meningitidis</td>
<td></td>
<td>HC6/HC6X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
</tr>
<tr>
<td>Neoplastic cellularity</td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Neutrophil</td>
<td></td>
<td>IDN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Next-generation sequencing</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin, urine</td>
<td></td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td>X</td>
<td>CZ/CZX, CZZX, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>N-desmethyltramadol</td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>FTC</td>
<td></td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>N-desmethyltramadol (cont.)</td>
<td></td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Naproxen</td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Nasal smears, eosinophil</td>
<td></td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
</tr>
<tr>
<td>Neisseria gonorrhoeae</td>
<td>X</td>
<td>D3</td>
<td>GC Cultures</td>
<td>179</td>
</tr>
<tr>
<td>Neisseria meningitidis</td>
<td></td>
<td>HC6/HC6X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
</tr>
<tr>
<td>Neoplastic cellularity</td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td>Neutrophil</td>
<td></td>
<td>IDN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Next-generation sequencing</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin</td>
<td></td>
<td>PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Myoglobin, urine</td>
<td></td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>N-acetylprocainamide (NAPA)</td>
<td>X</td>
<td>CZ/CZX, CZZX, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>N-desmethyltramadol</td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>FTC</td>
<td></td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>------------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Nitrite, urine</td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DAI</td>
<td>Urine Drug Adulterant/Integrity Testing</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td>Nitrogen, urine; total</td>
<td>U</td>
<td></td>
<td>Urine Chemistry–General</td>
<td>72</td>
</tr>
<tr>
<td>Nongynecologic cytopathology</td>
<td>FNA/FNA1</td>
<td>Fine-Needle Aspiration, Digital</td>
<td>311</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FNAG/ FNAG1</td>
<td>Fine-Needle Aspiration, Glass</td>
<td>312</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NGC/ NGC1</td>
<td>Nongynecologic Cytopathology Education Program</td>
<td>310</td>
</tr>
<tr>
<td>Non HDL Cholesterol, calculated</td>
<td>ABL</td>
<td></td>
<td>Accuracy-Based Lipid</td>
<td>116</td>
</tr>
<tr>
<td>Noninvasive prenatal testing</td>
<td>NIPT</td>
<td>Noninvasive Prenatal Testing</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Norbuprenorphine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norchloridiazepoxide</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norclomipramine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norcodeine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norcyclobenzaprine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Nordiazepam</td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norfentanyl</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norfluoxetine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norhydrocodone</td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>Norketamine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Normeperidine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Nor metabolites</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normetanephrine</td>
<td>X</td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td>73</td>
</tr>
<tr>
<td>Normitrazapine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norvalxone</td>
<td>U</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norovirus</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SP1</td>
<td>Stool Pathogens</td>
<td>190</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Noroxycodone</td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Noroxymorphine</td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td>Norpropoxyphene</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td></td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norsertraline</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Nortrimipramine</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Norvenlafaxine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td>Norverapamil</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Novel opioids and benzodiazepines</td>
<td>NOB</td>
<td>Novel Opioids and Benzodiazepines</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NRAS</td>
<td>X</td>
<td>MTP Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td></td>
<td>FH3Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BMV6</td>
<td></td>
<td>Differential</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>BU</td>
<td></td>
<td>Bone and Mineral, Urine</td>
<td>89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT-pro B-type natriuretic peptides</td>
<td>X</td>
<td>BNP5</td>
<td>B-Type Natriuretic Peptides, 5 Chall</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>BNPQ</td>
<td>Quality Cross Check, B-Type Natriuretic Peptides</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>LN30</td>
<td>BNP Calver/Lin</td>
<td>131</td>
</tr>
<tr>
<td>Nucleated cells, total</td>
<td>CBT</td>
<td>Cord Blood Testing</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SCP</td>
<td>Stem Cell Processing</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH3Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Nucleated red cells, total</td>
<td>CBT</td>
<td>Cord Blood Testing</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>Nucleic acid amplification</td>
<td>X</td>
<td>HBVL, HBVL5, HCV2</td>
<td>Hepatitis Viral Load</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HC6/HC6X</td>
<td>C. trachomatis/GC by Nucleic Acid Amp</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HC7</td>
<td>C. trachomatis/GC DNA by NAA</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HIVG, HV2</td>
<td>HIV Viral Load</td>
<td>206</td>
</tr>
<tr>
<td></td>
<td>ID1, ID1T</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID2</td>
<td>Nucleic Acid Amp, Respiratory</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>ID3Q</td>
<td>Quality Cross Check-Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDN, IDO</td>
<td>Nucleic Acid Amp, Organisms</td>
<td>207</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MR52M</td>
<td>MRSA Screen, Molecular, 2 Challenge</td>
<td>189</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MR55M</td>
<td>MRSA Screen, Molecular, 5 Challenge</td>
<td>189</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP, SPN, SP1</td>
<td>Stool Pathogens</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VLS, VLS2</td>
<td>Viral Load</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VRE</td>
<td>Vancomycin-Resistant Enterococcus</td>
<td>193</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>354</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Analyte/Procedure Index

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osmolality, urine (cont.)</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Osmometer check</td>
<td>X</td>
<td>U</td>
<td>Urine Chemistry—General</td>
<td>72</td>
</tr>
<tr>
<td>Osteocalcin</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>Oxalate</td>
<td>KSA</td>
<td>Kidney Stone Risk Assessment</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Oxazepam</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Oxcarbazepine</td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Oxcarbazepine metabolite</td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Oxidants, urine</td>
<td>DAI</td>
<td>Urine Drug Adulterant/Integrity Testing</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Oxycodone</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Oligoclonal bands</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Organic acids, urine, quantitative</td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Organic acids, urine, quantitative</td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Osmolality, measured</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Osmolality, urine</td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

### Analyte/Procedure Index

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleic acid testing</td>
<td>NAT</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>Nugent scoring</td>
<td>VS2</td>
<td>Vaginitis Screen, Virtual Gram Stain</td>
<td>193</td>
<td></td>
</tr>
<tr>
<td>Occult blood</td>
<td>OCB</td>
<td>Occult Blood</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Occult blood, gastric</td>
<td>GOCB</td>
<td>Gastric Occult Blood</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Ocular micrometer check</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>O-desmethyltramadol</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Oligoclonal bands</td>
<td>OLI</td>
<td>Oligoclonal Bands</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>DMPPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>OFD</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>UTCO</td>
<td>Urine Toxicology Carryover</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>OPRM1</td>
<td>PGX1</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>Organic acids, urine, qualitative</td>
<td>X</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Organic acids, urine, quantitative</td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Ornithine, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Osmolality, measured</td>
<td>X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Osmolality, urine</td>
<td>X</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
</tbody>
</table>

### Analyte/Procedure Index

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>354</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Analyte/Procedure Index

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>ENR</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nucleic acid testing</td>
<td>NAT</td>
<td>Nucleic Acid Testing</td>
<td>244</td>
<td></td>
</tr>
<tr>
<td>Nugent scoring</td>
<td>VS2</td>
<td>Vaginitis Screen, Virtual Gram Stain</td>
<td>193</td>
<td></td>
</tr>
<tr>
<td>Occult blood</td>
<td>OCB</td>
<td>Occult Blood</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Occult blood, gastric</td>
<td>GOCB</td>
<td>Gastric Occult Blood</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Ocular micrometer check</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>O-desmethyltramadol</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Oligoclonal bands</td>
<td>OLI</td>
<td>Oligoclonal Bands</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>DMPPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Opiate group</td>
<td>UTCO</td>
<td>Urine Toxicology Carryover</td>
<td>138</td>
<td></td>
</tr>
<tr>
<td>OPRM1</td>
<td>PGX1</td>
<td>Pharmacogenetics</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>Organic acids, urine, qualitative</td>
<td>X</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Organic acids, urine, quantitative</td>
<td>BGL</td>
<td>Biochemical Genetics</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>Ornithine, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Osmolality, measured</td>
<td>X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>Osmolality, urine</td>
<td>X</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>p16</td>
<td>P16</td>
<td>P16 Immuno-histochemistry TMA</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>p53</td>
<td>P53</td>
<td>p53 Immuno-histochemistry TMA</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>p2PSA</td>
<td>K/KK</td>
<td>Ligand--General</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Pancreatic amylase</td>
<td>C1, C3/C3X, C2/CZ/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td>PAPP-A</td>
<td>FP1B</td>
<td>First Trimester Maternal Screening, Free Beta</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>Parainfluenza virus</td>
<td>ID2</td>
<td>Nucleic Acid Amp, Respiratory</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Paroxine</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Parasthma</td>
<td>BP</td>
<td>Blood Parasite</td>
<td>199</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R.P3, P4, P5</td>
<td>Parasitology</td>
<td>198</td>
<td></td>
</tr>
<tr>
<td>Parathyroid hormone (PTH)</td>
<td>ING</td>
<td>Insulin, Gastrin, C- Peptide, PTH</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PTHQ</td>
<td>Quality Cross Check, PTH</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Parentage/relationship testing</td>
<td>PARF</td>
<td>Parentage/Relationship</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>Paroxetine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Parvimonas micra</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Parvovirus B19</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td>pCO2</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>Quality Cross Check, Critical Care Aquous Blood Gas Series</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN13, LN13C</td>
<td>Blood Gas Cal Ver/Lin</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>PDGFRA</td>
<td>KIT</td>
<td>KIT/PDGFR A</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
<td></td>
</tr>
<tr>
<td>PD-L1</td>
<td>PDL1</td>
<td>PD-L1 Immunohistochemistry</td>
<td>299</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentobarbital</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Peptostreptococcus anaerobius</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Performance improvement program in surgical pathology</td>
<td>PIP/PIP1, PIPW/ PIPW1</td>
<td>Performance Improvement Program in Surgical Pathology</td>
<td>282–283</td>
<td></td>
</tr>
<tr>
<td>Peripheral blood cell identification</td>
<td>EHE1</td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>Peripheral blood smear, virtual</td>
<td>VPBS</td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>AFL</td>
<td>Amniotic Fluid Leakage</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AQQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>Quality Cross Check, Critical Care Aquous Blood Gas Series</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLDQ</td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Parvimonas micra</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Parvovirus B19</td>
<td>ID1</td>
<td>Nucleic Acid Amp, Viruses</td>
<td>202</td>
<td></td>
</tr>
<tr>
<td>pCO2</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AQ, AQ2Q, AQ3Q, AQ4Q</td>
<td>Quality Cross Check, Critical Care Aquous Blood Gas Series</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN13, LN13C</td>
<td>Blood Gas Cal Ver/Lin</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>PDGFRA</td>
<td>KIT</td>
<td>KIT/PDGFR A</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
<td></td>
</tr>
<tr>
<td>PD-L1</td>
<td>PDL1</td>
<td>PD-L1 Immunohistochemistry</td>
<td>299</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pentafluorobenzyl</td>
<td>OFD</td>
<td>Oral Fluid for Drugs of Abuse</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Paroxetine</td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDS, UDS8</td>
<td>Urine Drug Screen</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Phenethylamine</td>
<td>FTC</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Pheniramine</td>
<td>FTC</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>X</td>
<td>CZ/CZX/CZ2X/ Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Phentermine</td>
<td>FTC</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Phenylalanine, quantitative</td>
<td>BGL2</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Phenylinephrine</td>
<td>FTC</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Phenylalanine</td>
<td>X</td>
<td>CZ/CZX/CZ2X/ Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>X</td>
<td>CZ/CZX/CZ2X/ Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus (cont.)</td>
<td>LN2</td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Phosphorus, urine</td>
<td>LN6</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
</tr>
<tr>
<td>PIK3CA</td>
<td>MTP</td>
<td>MTP</td>
<td>Multigene Tumor Panel</td>
<td>277</td>
</tr>
<tr>
<td>Pipette calibration-gravimetric</td>
<td>I</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
</tr>
<tr>
<td>Plasma cell myeloma, minimal residual disease</td>
<td>FL9</td>
<td>FL9</td>
<td>Flow Cytometry Plasma Cell Myeloma Minimal Residual Disease</td>
<td>226</td>
</tr>
<tr>
<td>Plasma cell neoplasms</td>
<td>PCNEO</td>
<td>PCNEO</td>
<td>Flow Cytometry, Plasma Cell Neoplasms</td>
<td>227</td>
</tr>
<tr>
<td>Plasma hemoglobin</td>
<td>PHG</td>
<td>PHG</td>
<td>Plasma Hemoglobin</td>
<td>80</td>
</tr>
<tr>
<td>Plasminogen activator inhibitor</td>
<td>CGE/CGEX</td>
<td>CGE/CGEX</td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td>Plasminogen activator inhibitor (PAI)-1 (SERPINE1 gene)</td>
<td>MGL1</td>
<td>MGL1</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Plasminogen antigen</td>
<td>CGE/CGEX</td>
<td>CGE/CGEX</td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td>Platelet aggregation</td>
<td>PF</td>
<td>PF</td>
<td>Platelet Function</td>
<td>170</td>
</tr>
<tr>
<td>Platelet antibody detection</td>
<td>PS</td>
<td>PS</td>
<td>Platelet Serology</td>
<td>237</td>
</tr>
<tr>
<td>Platelet calculator</td>
<td>TRC</td>
<td>TRC</td>
<td>Transfusion-Related Cell Count</td>
<td>238</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN9</td>
<td>Hematology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td>Platelet count (estimated)</td>
<td>EHE1</td>
<td>EHE1</td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VPBS</td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td>Platelet count (platelet-rich plasma)</td>
<td>TRC</td>
<td>TRC</td>
<td>Transfusion-Related Cell Count</td>
<td>236</td>
</tr>
<tr>
<td>Platelet crossmatch</td>
<td>PS</td>
<td>PS</td>
<td>Platelet Serology</td>
<td>237</td>
</tr>
<tr>
<td>Platelet function</td>
<td>PF1</td>
<td>PF1</td>
<td>Platelet Function</td>
<td>170</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>-----</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Platelet mapping</td>
<td>PLTM</td>
<td></td>
<td></td>
<td>Platelet Mapping</td>
</tr>
<tr>
<td>Plesiomonas shigelloides</td>
<td>GIP</td>
<td></td>
<td></td>
<td>Gastrointestinal Panel</td>
</tr>
<tr>
<td>PML/RARA</td>
<td>MHO2, MHO3</td>
<td></td>
<td></td>
<td>Molecular Hematologic Oncology</td>
</tr>
<tr>
<td>Pneumocystis detection</td>
<td>PCP1</td>
<td></td>
<td>Pneumocystis jirovecii, Calcofluor White Stain</td>
<td>197</td>
</tr>
<tr>
<td>PNH immunophenotype</td>
<td>PNH</td>
<td></td>
<td>Paroxysmal Nocturnal Hemoglobinuria, RBC</td>
<td>227</td>
</tr>
<tr>
<td>pO2</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td></td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td>Porphobilinogen, urine</td>
<td>UPBG</td>
<td></td>
<td>Porphobilinogen, Urine</td>
<td>74</td>
</tr>
<tr>
<td>Posaconazole</td>
<td>AFD</td>
<td></td>
<td>Antifungal Drugs Monitoring</td>
<td>111</td>
</tr>
<tr>
<td>Post-immunotherapy analysis, flow cytometry</td>
<td>FL6</td>
<td></td>
<td>Post-Immunotherapy Flow Analysis</td>
<td>225</td>
</tr>
<tr>
<td>Postanalytical DNA sequencing</td>
<td>SEC</td>
<td></td>
<td>DNA Sequencing Count</td>
<td>263</td>
</tr>
<tr>
<td>Postvasectomy sperm count, automated</td>
<td>PV1</td>
<td></td>
<td>Postvasectomy Sperm Count</td>
<td>160</td>
</tr>
<tr>
<td>Postvasectomy sperm count, manual</td>
<td>PV</td>
<td></td>
<td>Postvasectomy Sperm Count</td>
<td>160</td>
</tr>
<tr>
<td>Postvasectomy sperm presence/absence, manual</td>
<td>PV</td>
<td></td>
<td>Postvasectomy Sperm Count</td>
<td>160</td>
</tr>
<tr>
<td>Potassium</td>
<td>AQ, AQ2, AQ3, AQ4</td>
<td></td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>C1, C3/C3X, C4, CZ/CZX/CZ2X</td>
<td></td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>FLD2</td>
<td></td>
<td>Body Fluid Chemistry</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>IFS</td>
<td></td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>LN13C</td>
<td></td>
<td>Blood Gas Cal Ver/Lin</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td></td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Potassium (cont.)</td>
<td>LN2BV</td>
<td></td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Potassium, urine</td>
<td>LN6</td>
<td></td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
</tr>
<tr>
<td>Potassium, vitreous fluid</td>
<td>VF</td>
<td></td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
</tr>
<tr>
<td>Prader-Willi/Angelman syndrome</td>
<td>MGL1</td>
<td></td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>Prealbumin</td>
<td>C3/C3X, CZ/CZX/CZ2X</td>
<td></td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>S2, S4</td>
<td></td>
<td>Immunology, Special</td>
<td>217</td>
</tr>
<tr>
<td>Predictive markers by immunohistochemistry</td>
<td>GHER2</td>
<td></td>
<td>Gastric HER2</td>
<td>297</td>
</tr>
<tr>
<td></td>
<td>HER2</td>
<td></td>
<td>HER2 by Immunohistochemistry</td>
<td>297</td>
</tr>
<tr>
<td></td>
<td>PM1</td>
<td></td>
<td>CD117 by Immunohistochemistry</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td>PM2</td>
<td></td>
<td>ER, PgR by Immunohistochemistry</td>
<td>297</td>
</tr>
<tr>
<td></td>
<td>PM3</td>
<td></td>
<td>CD20 by Immunohistochemistry</td>
<td>298</td>
</tr>
<tr>
<td></td>
<td>PM5</td>
<td></td>
<td>Immunohistochemistry TMA</td>
<td>295</td>
</tr>
<tr>
<td></td>
<td>PM6</td>
<td></td>
<td>Anaplastic Lymphoma Kinase IHC</td>
<td>298</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Ze</td>
<td></td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
</tr>
<tr>
<td>Prekallikrein</td>
<td>CGE/CGEX</td>
<td></td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td>Primidone</td>
<td>CZ/CZX/CZ2X, Z</td>
<td></td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td>CZQ</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>BNP</td>
<td></td>
<td>B-Type Natriuretic Peptides, 2 Chall</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>BNP5</td>
<td></td>
<td>B-Type Natriuretic Peptides, 5 Chall</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>BNPQ</td>
<td></td>
<td>Quality Cross Check, B-Type Natriuretic Peptides</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>PCARM/PCARMX</td>
<td></td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Procainamide</td>
<td>X</td>
<td>CZ/CZX, CZ2X,Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Procalciton</td>
<td>LN41</td>
<td></td>
<td>Procalciton Cal Ver/Lin</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X PCT</td>
<td>Procalciton</td>
<td>81</td>
</tr>
<tr>
<td>Progesterone</td>
<td>LN8</td>
<td></td>
<td>Reproductive Endocrinology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X Y/YY</td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Progesterone receptors by immunohistochemistry</td>
<td>PM2</td>
<td>ER, PgR by Immunohistochemistry</td>
<td>297</td>
<td></td>
</tr>
<tr>
<td>Prolactin</td>
<td>LN8</td>
<td></td>
<td>Reproductive Endocrinology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X Y/YY</td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Proline, quantitative</td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>Promethazine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td>Propoxyphene</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Propranolol</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA)</td>
<td>ABS</td>
<td>Accuracy-Based Testosterone, Estradiol</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN23</td>
<td>PSA Cal Ver/Lin</td>
<td>130</td>
</tr>
<tr>
<td>Prostate-specific antigen, complexed (cPSA)</td>
<td>X K/KK</td>
<td>Ligand–General</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Prostate-specific antigen (PSA), free, measured</td>
<td>X K/KK</td>
<td>Ligand–General</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Prostatic acid phosphatase (PAP)</td>
<td>X K/KK</td>
<td>Ligand–General</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Protein C</td>
<td>CGE/CGX</td>
<td></td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CGS2</td>
<td>Coag Special, Series 2</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN35</td>
<td>Thrombophilia Cal Ver/Lin</td>
<td>133</td>
</tr>
<tr>
<td>Protein, confirmatory urine</td>
<td>DSC</td>
<td>Dipstick Confirmatory</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Protein electrophoresis, serum, interpretation</td>
<td>SPE</td>
<td>Protein Electrophoresis</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP/ENR Program Code</td>
<td>Description</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Prothrombin time (cont.)</td>
<td>RVBN</td>
<td>Anticoagulant Monitoring Rivaroxaban</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Prothrombin time, dilute</td>
<td>WP3/WP4, WP6/WP9</td>
<td>Whole Blood Coagulation</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td>Provider-performed microscopy</td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>PRU test</td>
<td>PIA/PIAX</td>
<td>Drug-Specific Platelet Aggregation</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Pseudoephedrine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>RBC automated count, fluid</td>
<td>ABF1, ABF2, ABF3</td>
<td>Automated Body Fluid</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>RBC count</td>
<td>ABF1, ABF2, ABF3</td>
<td>Automated Body Fluid</td>
<td>153</td>
<td></td>
</tr>
<tr>
<td>Prothrombin time (cont.)</td>
<td>WP3/WP4, WP6/WP9</td>
<td>Whole Blood Coagulation</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td>Provider-performed microscopy</td>
<td>CMMP</td>
<td>Clinical Microscopy, Misc</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td>PRU test</td>
<td>PIA/PIAX</td>
<td>Drug-Specific Platelet Aggregation</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Pseudoephedrine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Pseudomonas aeruginosa</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Quality Management Tools</td>
<td>QP231</td>
<td>Non-Physician Care Team Satisfaction With Clinical Laboratory Services</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>QPB10</td>
<td>Technical Competency Assessment of Body Fluid Review</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Brucella</td>
<td>QPC10, QPC25</td>
<td>Technical Competency Assessment of Peripheral Blood Smears</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Brucella</td>
<td>QPD10, QPD25</td>
<td>Technical Competency Assessment of Gram Stains</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>QT1</td>
<td>QT1</td>
<td>Patient Identification Accuracy</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>QT10</td>
<td>QT10</td>
<td>Critical Values Reporting</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>QT15</td>
<td>QT15</td>
<td>TATs of Troponin</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>QT16</td>
<td>QT16</td>
<td>Corrected Results</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>QT17</td>
<td>QT17</td>
<td>Outpatient Order Entry Errors</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>QT2</td>
<td>QT2</td>
<td>Blood Culture Contamination</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>QT3</td>
<td>QT3</td>
<td>Laboratory Specimen Acceptability</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>QT4</td>
<td>QT4</td>
<td>In-Date Blood Product Wastage</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>QT5</td>
<td>QT5</td>
<td>Gynecologic Cytology Outcomes: Biopsy Correlation Performance</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>QT7</td>
<td>QT7</td>
<td>Satisfaction With Outpatient Specimen Collection</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>QT8</td>
<td>QT8</td>
<td>Stat Test TAT Outliers</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP/ENR Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quetiapine</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td>Quinidine</td>
<td>C2/CZX/ CZZ, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>Quinine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Ranitidine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td>Rapamycin (sirolimus)</td>
<td>CS</td>
<td>Immunosuppressive Drugs</td>
<td>61</td>
</tr>
<tr>
<td>Rapid group A strep</td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
</tr>
<tr>
<td>Rapid group A strep</td>
<td>D6</td>
<td>Rapid Group A Strep, Waived</td>
<td>183</td>
</tr>
<tr>
<td>Rapid group A strep</td>
<td>D9</td>
<td>Rapid Group A Strep, Waived</td>
<td>183</td>
</tr>
<tr>
<td>Rapid group A strep</td>
<td>MC4</td>
<td>Urine Colony Count Combination</td>
<td>181</td>
</tr>
<tr>
<td>Rapid group A strep</td>
<td>RMC</td>
<td>Routine Microbiology Combination</td>
<td>180</td>
</tr>
<tr>
<td>RBC automated count, fluid</td>
<td>ABF1, ABF2, ABF3</td>
<td>Automated Body Fluid</td>
<td>153</td>
</tr>
<tr>
<td>RBC count</td>
<td>ABF1, ABF2, ABF3</td>
<td>Automated Body Fluid</td>
<td>153</td>
</tr>
<tr>
<td>RBC count</td>
<td>X</td>
<td>Hematology Automated Differential</td>
<td>141</td>
</tr>
<tr>
<td>RBC folate</td>
<td>X</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td>RBC manual count, fluid</td>
<td>X</td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td>RBC morphology</td>
<td>X</td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
</tbody>
</table>

800-323-4040 | 847-832-7000 (Country code: 1) Option 1 | cap.org | 359
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FH3Q, FH4Q, FH9Q, FH13Q</td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HE, HEP</td>
<td>Basic Hematology</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td>Red blood cell antigen detection</td>
<td>J, J1</td>
<td>Transfusion Medicine</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td>Red blood cell antigen genotyping</td>
<td>RAG</td>
<td>Red Blood Cell Antigen Genotyping</td>
<td>234</td>
<td></td>
</tr>
<tr>
<td>Red blood cell antigen typing</td>
<td>RBCAT</td>
<td>Red Blood Cell Antigen Typing</td>
<td>234</td>
<td></td>
</tr>
<tr>
<td>Reducing substance, urine</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td>Refractometer check</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>Renin</td>
<td>X</td>
<td>RAP</td>
<td>Renin and Aldosterone</td>
<td>93</td>
</tr>
<tr>
<td>Reptilase time</td>
<td>CGE/CGEX</td>
<td>Coagulation, Extended</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Respiratory syncytial virus (RSV)</td>
<td>ID2</td>
<td>Nucleic Acid Amp, Respiratory</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td>ID3Q</td>
<td>Quality Cross Check–Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR4</td>
<td>Virology Antigen Detection by EIA and Latex</td>
<td>201</td>
</tr>
<tr>
<td>Reticulocyte count, absolute</td>
<td>X</td>
<td>RT, RT2, RT3, RT4</td>
<td>Reticulocyte</td>
<td>146</td>
</tr>
<tr>
<td>Reticulocyte count, percent</td>
<td>X</td>
<td>RT, RT2, RT3, RT4</td>
<td>Reticulocyte</td>
<td>146</td>
</tr>
<tr>
<td>Reticulocyte hemoglobin (RET-He)</td>
<td>RT4</td>
<td>Reticulocyte</td>
<td>146</td>
<td></td>
</tr>
<tr>
<td>Reticulocyte hemoglobin concentration (CHr)</td>
<td>RT3</td>
<td>Reticulocyte</td>
<td>146</td>
<td></td>
</tr>
<tr>
<td>Rett syndrome (MECP2 gene)</td>
<td>X</td>
<td>RETT</td>
<td>Rett Syndrome Genotyping</td>
<td>264</td>
</tr>
<tr>
<td>Rett syndrome (MECP2 gene) duplication deletion analysis</td>
<td>X</td>
<td>RETT</td>
<td>Rett Syndrome Genotyping</td>
<td>264</td>
</tr>
<tr>
<td>RhD</td>
<td>X</td>
<td>MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
</tr>
<tr>
<td>RhD typing</td>
<td>J, J1</td>
<td>Transfusion Medicine</td>
<td>230</td>
<td></td>
</tr>
<tr>
<td></td>
<td>J</td>
<td>JATE1</td>
<td>Transfusion Medicine, Automated</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td>JATQ</td>
<td>Quality Cross Check, Transfusion Medicine</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TMCA</td>
<td>Transfusion Medicine, Competency Assessment</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>Rheumatoid factor isotypes, IgA, IgG, and IgM</td>
<td>CCP</td>
<td>Cyclic Citrullinated Peptide Antibody</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td>Rheumatoid factor, qualitative</td>
<td>X</td>
<td>IL, RF/RFX</td>
<td>Immunology</td>
<td>216</td>
</tr>
<tr>
<td>Rheumatoid factor, quantitative</td>
<td>X</td>
<td>IL, RF/RFX</td>
<td>Immunology</td>
<td>216</td>
</tr>
<tr>
<td>Rhinovirus</td>
<td>ID2</td>
<td>Nucleic Acid Amp, Respiratory</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>Rhinovirus/enterovirus</td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td>Rifampin Resistance</td>
<td>MTBR</td>
<td>Molecular MTB Detection and Resistance</td>
<td>194</td>
<td></td>
</tr>
<tr>
<td>Ritalinic acid</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Rivaroxaban</td>
<td>RVBN</td>
<td>Anticoagulant Monitoring, Rivaroxaban</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>RNA sequencing</td>
<td>RNA</td>
<td>Fusion RNA Sequencing</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>Rotavirus</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SP, SPN</td>
<td>Stool Pathogens</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>RSV</td>
<td>X VR4</td>
<td>Viral Antigen Detection by EIA and Latex</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID2</td>
<td>Nucleic Acid Amp, Respiratory</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ID3Q</td>
<td>Quality Cross Check–Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X VR1</td>
<td>Virology Culture</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X VR4</td>
<td>Viral Antigen Detection by EIA and Latex</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Rubella antibody, IgG, qualitative</td>
<td>X IL, RUB/ RUBX</td>
<td>Immunology</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td>Rubella antibody, IgG, quantitative</td>
<td>X IL, RUB/ RUBX</td>
<td>Immunology</td>
<td>216</td>
<td></td>
</tr>
<tr>
<td>Rubeola antibody (English measles)</td>
<td>X VR3</td>
<td>Antibody Detection–Infectious Disease Serology</td>
<td>213</td>
<td></td>
</tr>
<tr>
<td>Rufinamide</td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Rupture of fetal membranes</td>
<td>ROM1</td>
<td>Fetal Membranes/Preterm Labor</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td>Russell's viper venom time, dilute</td>
<td>CGS1</td>
<td>Coagulation Special, Series 1</td>
<td>167</td>
<td></td>
</tr>
<tr>
<td>Salicylate</td>
<td>X CZ/CZX/CZX, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X SDS</td>
<td>Serum Drug Screen</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Salmonella</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>Sapovirus (I, II, IV, V)</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Sarcoma by FISH</td>
<td>CYK</td>
<td>Fluorescence In Situ Hybridization</td>
<td>255</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarcoma translocation</td>
<td>X SARC</td>
<td>Sarcoma Fusion Gene</td>
<td>275</td>
<td></td>
</tr>
<tr>
<td>SARS-CoV-2</td>
<td>X COV2</td>
<td>SARS-CoV-2 Molecular</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X COVQ</td>
<td>Quality Cross Check, SARS-CoV-2 Molecular</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X COVAG</td>
<td>SARS-CoV-2 Antigen</td>
<td>203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X COVAQ</td>
<td>Quality Cross Check, SARS-CoV-2 Antigen</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X COVS</td>
<td>SARS-CoV-2 Serology</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X COVSO</td>
<td>Quality Cross Check, SARS-CoV-2 Serology</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ID3Q</td>
<td>Quality Cross Check–Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X RDS</td>
<td>Rheumatic Disease Special</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X RSG</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X SDS</td>
<td>Serum Drug Screen</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X SC, SC1, SV, PV</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X SMCD</td>
<td>Semen Analysis, Online</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X AAT</td>
<td>Alpha-1 Antitrypsin Genotyping</td>
<td>259</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X T</td>
<td>Toxicology</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X UT</td>
<td>Urine Toxicology</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X SFLC</td>
<td>Serum Free Light Chains</td>
<td>220</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X ABS</td>
<td>Testosterone and Estradiol Accuracy</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X DY</td>
<td>Sex Hormones</td>
<td>88</td>
<td></td>
</tr>
</tbody>
</table>
## Analyte/Procedure Index

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shiga toxin</td>
<td>SP</td>
<td>Stool Pathogens–Rapid and Molecular</td>
<td>190</td>
<td></td>
</tr>
<tr>
<td>Shiga-like toxin producing <em>E. coli</em> (STEC)</td>
<td>ST</td>
<td>Shiga Toxin</td>
<td>191</td>
<td></td>
</tr>
<tr>
<td>Shigella</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Sperm count</td>
<td>X</td>
<td>Semen Analysis, Online</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm count, automated</td>
<td>PV1</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm count, manual</td>
<td>PV</td>
<td>Postvasectomy Sperm Count</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>X</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm motility</td>
<td>SMCD</td>
<td>Semen Analysis, Online</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm presence/absence</td>
<td>SC</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm presence/absence, postvasectomy, manual</td>
<td>PV</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm viability</td>
<td>SM2CD</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Spinal fluid meningitis panel</td>
<td>X D</td>
<td>Bacteriology</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>Spinal muscular atrophy (SMN1 and SMN2 genes)</td>
<td>X MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Spino cerebellar ataxia (ATXN1, ATXN2, ATXN3, CACNA1A, and ATXN7 genes)</td>
<td>X MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>X</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A0Q, A02Q,A03Q,A04Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C1, C3/C3X, C4, C2/C2X/C22X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLD2</td>
<td>Body Fluid Chemistry 2</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN13C</td>
<td>Blood Gas Cal Ver/Lin</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC10,</td>
<td>POC Competency Blood Gases</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium, urine</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Sodium, vitreous fluid</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Soluble transferrin receptor</td>
<td>STFR</td>
<td>Soluble Transferrin Receptor</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Somatomedin C (IGF-1)</td>
<td>X</td>
<td>Sex Hormones</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>X</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAI</td>
<td>Urine Drug Adulterant/ Integrity Testing</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC3</td>
<td>POC Urine Dipstick Competency</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectrophotometer linearity</td>
<td>I</td>
<td>Instrumentation</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>Sperm count</td>
<td>X SMCD</td>
<td>Semen Analysis, Online</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm count, automated</td>
<td>PV1</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm count, manual</td>
<td>PV</td>
<td>Postvasectomy Sperm Count</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm morphology</td>
<td>X SMCD</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm motility</td>
<td>SMCD</td>
<td>Semen Analysis, Online</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm presence/absence</td>
<td>SC</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm presence/absence, postvasectomy, manual</td>
<td>PV</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Sperm viability</td>
<td>SM2CD</td>
<td>Semen Analysis</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>Spinal fluid meningitis panel</td>
<td>X D</td>
<td>Bacteriology</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>Spinal muscular atrophy (SMN1 and SMN2 genes)</td>
<td>X MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Spino cerebellar ataxia (ATXN1, ATXN2, ATXN3, CACNA1A, and ATXN7 genes)</td>
<td>X MGL2</td>
<td>Molecular Genetics</td>
<td>261–262</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>X</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A0Q, A02Q,A03Q,A04Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C1, C3/C3X, C4, C2/C2X/C22X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FLD2</td>
<td>Body Fluid Chemistry 2</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN13C</td>
<td>Blood Gas Cal Ver/Lin</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC10,</td>
<td>POC Competency Blood Gases</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium, urine</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Sodium, vitreous fluid</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td>106</td>
<td></td>
</tr>
<tr>
<td>Soluble transferrin receptor</td>
<td>STFR</td>
<td>Soluble Transferrin Receptor</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Somatomedin C (IGF-1)</td>
<td>X</td>
<td>Sex Hormones</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>X</td>
<td>Clinical Microscopy</td>
<td>151</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMQ</td>
<td>Quality Cross Check, Urinalysis</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DAI</td>
<td>Urine Drug Adulterant/ Integrity Testing</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HCC2</td>
<td>Waived Combination</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>POC3</td>
<td>POC Urine Dipstick Competency</td>
<td>54</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UDC</td>
<td>Forensic Urine Drug Testing, Confirmatory</td>
<td>104</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus aureus</td>
<td>X IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Staphylococcus aureus-blood culture</td>
<td>X BCS1</td>
<td>Blood Culture</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td>Staphylococcus lugdunensis</td>
<td>X JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td>STEC (Shiga-like toxin producing <em>E. coli</em>)</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
<td></td>
</tr>
<tr>
<td>Streptococcus agalactiae</td>
<td>X D8</td>
<td>Group B Strep</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDMS</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Streptococcus pneumonia</td>
<td>X JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDMS</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td><em>Streptococcus pneumoniae (cont.)</em></td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SBAS</td>
<td>S. pneumoniae Ag Detection</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td><em>Streptococcus pyogenes</em></td>
<td>X</td>
<td>D</td>
<td>Bacteriology</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D1</td>
<td>Throat</td>
<td>179</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D6</td>
<td>Rapid Group A Strep</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>D9</td>
<td>Rapid Group A Strep, Waived</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDPN</td>
<td>Infectious Disease, Pneumonia Panel</td>
<td>211</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>JIP</td>
<td>Joint Infection Panel</td>
<td>208</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>MC4</td>
<td>Urine Colony Count Combination</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>RMC</td>
<td>Routine Microbiology Combination</td>
<td>180</td>
</tr>
<tr>
<td>Strychnine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Sulfosalicylic acid (SSA)</td>
<td>DSC</td>
<td>Dipstick Confirmatory</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td>Surgical pathology</td>
<td>DPATH/ DPATH1</td>
<td>Online Digital Slide Program</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PIP/PIP1, PIPN/ PIPW1</td>
<td>Performance Improvement Program in Surgical Pathology</td>
<td>282–283</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VBP/VBP1</td>
<td>Online Virtual Biopsies Program</td>
<td>284</td>
<td></td>
</tr>
<tr>
<td>Synthetic cannabinoid/ designer drugs</td>
<td>SCDD</td>
<td>Synthetic Cannabinoid/ Designer Drugs</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Syphilis</td>
<td>X</td>
<td>G</td>
<td>Syphilis Serology</td>
<td>222</td>
</tr>
<tr>
<td>T3, free (triiodothyronine)</td>
<td>ABTH</td>
<td>Harmonized Thyroid</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C2/CZX/ C2ZX</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand-General</td>
<td>86</td>
</tr>
<tr>
<td>T3, total (triiodothyronine)</td>
<td>ABTH</td>
<td>Harmonized Thyroid</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C2/CZX/ C2ZX</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand-General</td>
<td>86</td>
</tr>
<tr>
<td>T3, uptake and related tests</td>
<td>X</td>
<td>C1, C3/C3X, C2/CZX/ C2ZX</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand-General</td>
<td>86</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP Code</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Testosterone</td>
<td>ABS</td>
<td></td>
<td>Accuracy-Based Testosterone and Estradiol</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>YYY</td>
<td></td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Testosterone, bioavailable, measured</td>
<td>DY</td>
<td></td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Testosterone, free, measured</td>
<td>DY</td>
<td></td>
<td>Sex Hormones</td>
<td>88</td>
</tr>
<tr>
<td>Tetrahydrozoline</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td>Thallium, urine</td>
<td>TMU</td>
<td></td>
<td>Trace Metals, Urine</td>
<td>108</td>
</tr>
<tr>
<td>Thallium, whole blood</td>
<td>TMWB</td>
<td></td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
</tr>
<tr>
<td>Theophylline</td>
<td>X</td>
<td>CZ/CZX/ CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Threonine, quantitative</td>
<td>BGL2</td>
<td></td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Throat culture</td>
<td>X</td>
<td>D1</td>
<td>Throat</td>
<td>179</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MC4</td>
<td>Urine Colony Count Combination</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RMC</td>
<td>Routine Microbiology Combination</td>
<td>180</td>
</tr>
<tr>
<td>Thrombin time</td>
<td>CGE/CGEX</td>
<td></td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>CGS4</td>
<td></td>
<td>Coag Special, Series 4</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>DBGN</td>
<td></td>
<td>Dabigatran</td>
<td>168</td>
</tr>
<tr>
<td></td>
<td>ECF</td>
<td></td>
<td>Expanded Coagulation Factors</td>
<td>166</td>
</tr>
<tr>
<td>Thrombophilia mutations</td>
<td>TPM</td>
<td></td>
<td>Thrombophilia Mutations</td>
<td>265</td>
</tr>
<tr>
<td>Thyroglobulin</td>
<td>X</td>
<td>TM/TMX</td>
<td>Tumor Markers</td>
<td>93</td>
</tr>
<tr>
<td>Thyroid-stimulating hormone (TSH)</td>
<td>ABS</td>
<td></td>
<td>Accuracy-Based Testosterone and Estradiol</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>ABTH</td>
<td></td>
<td>Harmonized Thyroid</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LN5</td>
<td></td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LNSS</td>
<td></td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Thyroxine (T4), free</td>
<td>ABTH</td>
<td></td>
<td>Harmonized Thyroid</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td>Thyroxine (T4), free (cont.)</td>
<td>CZQ</td>
<td></td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LN5</td>
<td></td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LNSS</td>
<td></td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Tissue parasite identification</td>
<td>X</td>
<td>BP</td>
<td>Blood Parasite</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>P</td>
<td>Parasitology</td>
<td>198</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEX</td>
<td>Expanded Parasitology</td>
<td>199</td>
</tr>
<tr>
<td>Tobramycin</td>
<td>X</td>
<td>CZ/CZX/ CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Topiramate</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>ZE</td>
<td></td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
</tr>
<tr>
<td>Total bile acids</td>
<td>TBLA</td>
<td></td>
<td>Total Bile Acid</td>
<td>82</td>
</tr>
<tr>
<td>Total bilirubin</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZX/ CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLD2</td>
<td>Body Fluid Chemistry 2</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB, NB2</td>
<td>Neonatal Bilirubin</td>
<td>69</td>
</tr>
<tr>
<td>Total bilirubin, urine</td>
<td>X</td>
<td>CMP, CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td>DSC</td>
<td></td>
<td>Dipstick Confirmatory</td>
<td>155</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HCC2</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td>Total free fatty acids</td>
<td>FCF5</td>
<td></td>
<td>Fecal Fat</td>
<td>79</td>
</tr>
<tr>
<td>Total hCG</td>
<td>X</td>
<td>FP1T</td>
<td>First Trimester Maternal Screening, Total hCG</td>
<td>91</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>ENR</td>
<td>Program Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>-----</td>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Total hemolytic complement</td>
<td></td>
<td></td>
<td>CH50</td>
<td>Total Hemolytic Complement</td>
</tr>
<tr>
<td>Total iron binding capacity, measured</td>
<td>X</td>
<td></td>
<td>C3/C3X, CZ/CZ2X</td>
<td>Chemistry and TDM</td>
</tr>
<tr>
<td>Total nitrogen, urine</td>
<td>U</td>
<td></td>
<td></td>
<td>Urine Chemistry–General</td>
</tr>
<tr>
<td>Total nucleated cells</td>
<td>CBT</td>
<td></td>
<td></td>
<td>Cord Blood Testing</td>
</tr>
<tr>
<td>Total nucleated cells manual differential count (body fluid)</td>
<td>HFC/HFCI</td>
<td></td>
<td></td>
<td>Hemocytometer Fluid Count</td>
</tr>
<tr>
<td>Total nucleated cells (WBC) automated count (body fluid)</td>
<td>AFB1, AFB2, AFB3</td>
<td></td>
<td></td>
<td>Automated Body Fluid</td>
</tr>
<tr>
<td>Total protein</td>
<td>X</td>
<td>C1, C3/C3X, CZ/CZ2X</td>
<td></td>
<td>Chemistry and TDM</td>
</tr>
<tr>
<td>Total protein, CSF</td>
<td>X</td>
<td>M, OLI</td>
<td></td>
<td>CSF Chemistry and Oligoclonal Bands</td>
</tr>
<tr>
<td>Total protein, urine</td>
<td>X</td>
<td>CMP, CMP1</td>
<td></td>
<td>Clinical Microscopy</td>
</tr>
<tr>
<td>Total tricyclics</td>
<td>X</td>
<td>SDS</td>
<td></td>
<td>Serum Drug Screen</td>
</tr>
<tr>
<td>Touch imprint/crush prep</td>
<td>TICP, TICP1</td>
<td></td>
<td></td>
<td>Touch Imprint/Crush Prep</td>
</tr>
<tr>
<td>Toxicology, serum, qualitative</td>
<td>X</td>
<td>SDS</td>
<td></td>
<td>Serum Drug Screen</td>
</tr>
<tr>
<td>Toxicology, urine, qualitative</td>
<td>X</td>
<td>DMPM</td>
<td></td>
<td>Drug Monitoring for Pain Management</td>
</tr>
<tr>
<td>Transferrin</td>
<td>X</td>
<td>C3/C3X, CZ/CZ2X</td>
<td></td>
<td>Chemistry and TDM</td>
</tr>
<tr>
<td>Transfusion medicine</td>
<td>ETME1</td>
<td></td>
<td></td>
<td>Expanded Transfusion Medicine Exercises</td>
</tr>
<tr>
<td>Transfusion medicine</td>
<td>EXM, EXM2</td>
<td></td>
<td></td>
<td>Electronic Crossmatch</td>
</tr>
<tr>
<td>Treponema pallidum</td>
<td>X</td>
<td>G</td>
<td></td>
<td>Syphilis Serology</td>
</tr>
</tbody>
</table>

**Notes:**
- **LAP** stands for Laboratory Activity Profile.
- **ENR** stands for Efficacy and Necessity Rating.
<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP Code</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trichomonas vaginalis</td>
<td>MVP</td>
<td>Molecular Vaginal Panel</td>
<td></td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>TVAG</td>
<td>Trichomonas vaginalis, Molecular</td>
<td></td>
<td>193</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VS, VS1</td>
<td>Vaginitis Screen</td>
<td>191</td>
</tr>
<tr>
<td>Tricyclic group</td>
<td>T</td>
<td>Toxicology</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td></td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Tricyclics, total</td>
<td>X</td>
<td>SDS</td>
<td>Serum Drug Screen</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ZT</td>
<td>TDM, Special</td>
<td>62</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>X</td>
<td>C1, C3/C3X, C4, C3/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FCFS</td>
<td>Fecal Fat</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLD</td>
<td>Body Fluid</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLDQ</td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>LCW</td>
<td>Chemistry–LTD, Waived</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>Triiodothyronine (T3), total</td>
<td>ABTH</td>
<td>Harmonized Thyroid</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C4, C3/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LN5</td>
<td>Ligand Assay Cal Ver/Lin</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LN5S</td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>Triiodothyronine (T3), free</td>
<td>ABTH</td>
<td>Harmonized Thyroid</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C4, C3/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K/KK</td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td>Trimipramine</td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td></td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Troponin I, plasma</td>
<td>X</td>
<td>PCARI, PCARM/PCARMX</td>
<td>Point-of-Care Cardiac Markers</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC12</td>
<td>POC Cardiac Markers Competency</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP Code</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troponin I, serum</td>
<td>X</td>
<td>CRT, CRT1</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CRTQ</td>
<td>Quality Cross Check, Cardiac Markers</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>LN25</td>
<td>Troponin I Cal Ver/Lin</td>
<td></td>
<td>131</td>
</tr>
<tr>
<td>Troponin I, high sensitivity, serum</td>
<td>X</td>
<td>HCRT, HCRT1</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>LN48</td>
<td>High-Sensitivity Troponin I Cal Ver/Lin</td>
<td></td>
<td>135</td>
</tr>
<tr>
<td>Troponin T, serum</td>
<td>X</td>
<td>CRT, CRT1</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>LN27</td>
<td>Troponin T Cal Ver/Lin</td>
<td></td>
<td>131</td>
</tr>
<tr>
<td>Troponin T, high sensitivity, serum</td>
<td>X</td>
<td>HCRT, HCRT1</td>
<td>Cardiac Markers</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>LN47</td>
<td>High-Sensitivity Troponin T Cal Ver/Lin</td>
<td></td>
<td>135</td>
</tr>
<tr>
<td>Tryptophan, quantitative</td>
<td></td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>Tumor mutational burden</td>
<td>TMB</td>
<td>Tumor Mutational Burden</td>
<td></td>
<td>273</td>
</tr>
<tr>
<td>Tumor necrosis factor (TNF)-alpha</td>
<td>CTKN</td>
<td>Cytokines</td>
<td></td>
<td>220</td>
</tr>
<tr>
<td>Tyrosine, quantitative</td>
<td></td>
<td>BGL2</td>
<td>Amino Acid Quantitation for Inherited Metabolic Disorders</td>
<td>258</td>
</tr>
<tr>
<td>UGT1A1</td>
<td>PGX3</td>
<td>Pharmacogenetics</td>
<td></td>
<td>264</td>
</tr>
<tr>
<td>Unsaturated iron binding capacity, measured</td>
<td>X</td>
<td>C3/C3X, C4/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td>Urea nitrogen</td>
<td>X</td>
<td>AQ2, AQ4</td>
<td>Critical Care Blood Gas</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AQ2Q, AQ4Q</td>
<td>Quality Cross Check, Critical Care Aqueous Blood Gas Series</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>C1, C3/C3X, C4/C3/CZX/CZ2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2Q</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLD</td>
<td>Body Fluid</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLDQ</td>
<td>Quality Cross Check, Body Fluid Chemistry</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td></td>
<td>124</td>
</tr>
<tr>
<td>Urea nitrogen, urine</td>
<td>LN6</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td></td>
<td>126</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
</tr>
<tr>
<td>Urea nitrogen, vitreous fluid</td>
<td>VF</td>
<td>Vitreous Fluid, Postmortem</td>
<td></td>
<td>106</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------</td>
<td>-----------------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Urease</td>
<td>X</td>
<td>RUR</td>
<td>Rapid Urease</td>
<td>190</td>
</tr>
<tr>
<td>Uric acid</td>
<td>X</td>
<td>C1,C3/C3X,C4,C2/C2X</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FLD2</td>
<td>Body Fluid Chemistry 2</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IFS</td>
<td>Interfering Substances</td>
<td>137</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2</td>
<td>Chemistry, Lipid, Enzyme Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN2BV</td>
<td>Chemistry, Lipid, Enzyme all Beckman except AU, Vitros Cal Ver/Lin</td>
<td>124</td>
</tr>
<tr>
<td>Uric acid, urine</td>
<td>LN6</td>
<td>X U</td>
<td>Urine Chemistry Cal Ver/Lin</td>
<td>126</td>
</tr>
<tr>
<td>Urine albumin</td>
<td>ABU</td>
<td>X U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>LN20</td>
<td>X U</td>
<td>Urine Albumin Creatinine</td>
<td>158</td>
</tr>
<tr>
<td>Urine albumin: creatinine ratio</td>
<td>ABU</td>
<td>X U</td>
<td>Urine Albumin Creatinine</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>U</td>
<td>X U</td>
<td>Urine Chemistry–General</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>UMC</td>
<td>X U</td>
<td>Urine Albumin Creatinine</td>
<td>158</td>
</tr>
<tr>
<td>Urine colony count</td>
<td>MC3</td>
<td>X U</td>
<td>Urine Colony Count</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>MC4</td>
<td>X U</td>
<td>Urine Colony Count</td>
<td>181</td>
</tr>
<tr>
<td>Urine crystals identification</td>
<td>URC</td>
<td>X U</td>
<td>Crystals</td>
<td>155</td>
</tr>
<tr>
<td>Urine crystals, semiquantitative</td>
<td>UAA</td>
<td>X U</td>
<td>Automated Urinalysis</td>
<td>154</td>
</tr>
<tr>
<td>Urine culture</td>
<td>X</td>
<td>D2</td>
<td>Urine Culture</td>
<td>179</td>
</tr>
<tr>
<td></td>
<td>MC3</td>
<td>X U</td>
<td>Urine Colony Count</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>MC4</td>
<td>X U</td>
<td>Urine Colony Count Combination</td>
<td>181</td>
</tr>
<tr>
<td></td>
<td>RMC</td>
<td>X U</td>
<td>Routine Microbiology Combination</td>
<td>180</td>
</tr>
<tr>
<td>Urine dipstick</td>
<td>X</td>
<td>CMP,CMP1</td>
<td>Clinical Microscopy</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td>CMQ</td>
<td>X HCC2</td>
<td>Waived Combination</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>POC3</td>
<td>X UDS, UDS6</td>
<td>Waived Urine Dipstick Competency</td>
<td>54</td>
</tr>
<tr>
<td>Urine drug screen</td>
<td>X</td>
<td>DMPM</td>
<td>Drug Monitoring for Pain Management</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POC3</td>
<td>POC/Waived Urine Dipstick Competency</td>
<td>54</td>
</tr>
<tr>
<td>Urine drug screen</td>
<td>X</td>
<td>UDS, UDS6</td>
<td>Urine Drug Screen</td>
<td>102</td>
</tr>
<tr>
<td>Urine eosinophils, Wright stain</td>
<td>SCM2</td>
<td>X UHCG</td>
<td>Urine hCG</td>
<td>158</td>
</tr>
<tr>
<td>Urine hCG, qualitative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine hCG, qualitative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valproic acid, free</td>
<td>X</td>
<td>CZ/CZX/CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T</td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Valproic acid</td>
<td>X</td>
<td>CZ/CZX/CZ2X, Z</td>
<td>Chemistry and TDM</td>
<td>58–60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CZQ</td>
<td>Quality Cross Check, Chemistry and TDM</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LN3</td>
<td>TDM Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VRE</td>
<td>Vancomycin-resistant Enterococcus</td>
<td>193</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/NX</td>
<td>Urine Chemistry–Special</td>
<td>73</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-----</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Varicella-zoster virus (VZV)</td>
<td>ID1</td>
<td></td>
<td>Nucleic Acid Amplification</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID5</td>
<td>Varicella-Zoster Virus, Molecular</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR3</td>
<td>Antibody Detection–Infectious Disease Serology</td>
<td>213</td>
</tr>
<tr>
<td>Vascular endothelial growth factor (VEGF)</td>
<td>CTKN</td>
<td></td>
<td>Cytokines</td>
<td>220</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>DFC</td>
<td></td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Verapamil</td>
<td>FTC</td>
<td></td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td></td>
<td>Toxicology</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>UT</td>
<td></td>
<td>Urine Toxicology</td>
<td>100</td>
</tr>
<tr>
<td>Viability</td>
<td>CBT</td>
<td></td>
<td>Cord Blood Testing</td>
<td>239</td>
</tr>
<tr>
<td></td>
<td>SCP</td>
<td></td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td>Vibrio cholera</td>
<td>GIP</td>
<td></td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>GIP5</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Viral antigen detection</td>
<td>POC8</td>
<td></td>
<td>POC Influenza A/B Ag</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR4</td>
<td>Viral Antigen Detection by EIA and Latex</td>
<td>201</td>
</tr>
<tr>
<td>Viral isolation/identification</td>
<td>X</td>
<td>HC4</td>
<td>HSV Culture</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID3</td>
<td>Nucleic Acid Amplification, Respiratory Limited</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ID3Q</td>
<td>Quality Cross Check–Nucleic Acid Amplification, Respiratory Limited</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID5</td>
<td>HSV, VZV–Molecular</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDR</td>
<td>Infectious Disease, Respiratory Panel</td>
<td>210</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td>Virtual biopsy program, online</td>
<td>VBP/VBP1</td>
<td></td>
<td>Online Virtual Biopsies Program</td>
<td>284</td>
</tr>
<tr>
<td>Virtual gram stain</td>
<td>VGS1</td>
<td></td>
<td>Virtual Gram Stain Basic</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>VGS2</td>
<td></td>
<td>Virtual Gram Stain Advanced</td>
<td>183</td>
</tr>
<tr>
<td>Virtual peripheral blood smear</td>
<td>VPBS</td>
<td></td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td>Viscoelastic studies</td>
<td>VES</td>
<td></td>
<td>Viscoelastic Studies</td>
<td>170</td>
</tr>
<tr>
<td>Viscoelastic testing, whole blood</td>
<td>VES1</td>
<td></td>
<td>Viscoelastic Testing–Whole Blood</td>
<td>170</td>
</tr>
<tr>
<td>Viscosity</td>
<td>V</td>
<td></td>
<td>Viscosity</td>
<td>223</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>BMV3</td>
<td></td>
<td>Bone Markers and Vitamins</td>
<td>90</td>
</tr>
<tr>
<td>Vitamin B₁₂, active</td>
<td>K/KK</td>
<td></td>
<td>Ligand–General</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>LN5</td>
<td></td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LNNS</td>
<td></td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Vitamin B₁₂, active</td>
<td>MMA</td>
<td></td>
<td>MMA and Active B₁₂</td>
<td>86</td>
</tr>
<tr>
<td>Vitamin D, 1,25-dihydroxy</td>
<td>BMV1</td>
<td></td>
<td>Bone Markers and Vitamins</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>LN5</td>
<td></td>
<td>Ligand Assay Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>LNNS</td>
<td></td>
<td>Ligand Assay, Siemens Cal Ver/Lin</td>
<td>125</td>
</tr>
<tr>
<td>Vitamin D, 25-OH</td>
<td>ABVD</td>
<td></td>
<td>Accuracy-Based Vitamin D</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>LN40</td>
<td></td>
<td>Vitamin D Cal Ver/Lin</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>VITD</td>
<td></td>
<td>25-OH Vitamin D</td>
<td>88</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>BMV4</td>
<td></td>
<td>Bone Markers and Vitamins</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>PKX</td>
<td></td>
<td>Pharmacogenetics</td>
<td>264</td>
</tr>
<tr>
<td>Volatiles</td>
<td>X</td>
<td>AL1</td>
<td>Whole Blood Alcohol/ Volatiles</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>AL2</td>
<td>Serum Alcohol/Volatiles</td>
<td>106</td>
</tr>
<tr>
<td>von Willebrand factor</td>
<td>CGE</td>
<td></td>
<td>Coagulation, Extended</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>CGS3</td>
<td></td>
<td>Coag Special, Series 3</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>LN37</td>
<td></td>
<td>von Willebrand Factor Ag Cal Ver/Lin</td>
<td>133</td>
</tr>
<tr>
<td>Voriconazole</td>
<td>AFD</td>
<td></td>
<td>Antifungal Drugs Monitoring</td>
<td>111</td>
</tr>
<tr>
<td>VZV</td>
<td>ID1</td>
<td></td>
<td>Nucleic Acid Amplification</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ID5</td>
<td>Varicella-Zoster Virus, Molecular</td>
<td>205</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDME</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDM5</td>
<td>Meningitis/Encephalitis Panel</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR1</td>
<td>Virology Culture</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR2</td>
<td>Viral Antigen Detection by DFA</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>VR3</td>
<td>Antibody Detection–Infectious Disease Serology</td>
<td>213</td>
</tr>
<tr>
<td>Wavelength and photometric calibration</td>
<td>I</td>
<td></td>
<td>Instrumentation</td>
<td>136</td>
</tr>
<tr>
<td>WBC automated count (fluid)</td>
<td>ABF1, ABF2, ABF3</td>
<td></td>
<td>Automated Body Fluid</td>
<td>153</td>
</tr>
<tr>
<td>Analyte/Procedure</td>
<td>LAP ENR</td>
<td>Program Code</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>WBC count</td>
<td>ABF1,</td>
<td></td>
<td>Automated Body Fluid</td>
<td>153</td>
</tr>
<tr>
<td></td>
<td>ABF2,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ABF3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CBT</td>
<td></td>
<td>Cord Blood Testing</td>
<td>239</td>
</tr>
<tr>
<td></td>
<td>FH3Q,</td>
<td></td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>FH4Q,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH9Q,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH13Q</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FL4</td>
<td></td>
<td>Flow Cytometry CD34+</td>
<td>224</td>
</tr>
<tr>
<td></td>
<td>HE, HEP</td>
<td></td>
<td>Basic Hematology</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>LN9</td>
<td></td>
<td>Hematology Cal Ver/Lin</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>RWBC</td>
<td></td>
<td>Rapid Total White Blood Cell Count</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>SCP</td>
<td></td>
<td>Stem Cell Processing</td>
<td>239</td>
</tr>
<tr>
<td>WBC count (leukocyte-reduced platelets)</td>
<td>TRC</td>
<td>Transfusion-Related Cell Count</td>
<td>236</td>
<td></td>
</tr>
<tr>
<td>WBC count (leukocyte-reduced RBCs)</td>
<td>TRC</td>
<td>Transfusion-Related Cell Count</td>
<td>236</td>
<td></td>
</tr>
<tr>
<td>WBC count, urine</td>
<td>UAA, UAA1</td>
<td>Automated Urinalysis</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>WBC differential, manual</td>
<td>EHE1</td>
<td>Expanded Virtual Peripheral Blood Smear</td>
<td>149</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VPBS</td>
<td></td>
<td>Virtual Peripheral Blood Smear</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>FH3Q,</td>
<td></td>
<td>Quality Cross Check, Automated Hematology Series</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>FH4Q,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH9Q,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FH13Q</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBC differential, body fluid</td>
<td>VBF</td>
<td>Virtual Body Fluid</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>WBC manual count, fluid</td>
<td>HFC, HFCI</td>
<td>Hemocytometer Fluid Count</td>
<td>156</td>
<td></td>
</tr>
<tr>
<td>West Nile virus</td>
<td>NAT</td>
<td></td>
<td>Nucleic Acid Testing</td>
<td>244</td>
</tr>
<tr>
<td>Worm identification</td>
<td>WID</td>
<td></td>
<td>Worm Identification</td>
<td>199</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyte/Procedure</th>
<th>LAP ENR</th>
<th>Program Code</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast identification</td>
<td>X</td>
<td>F</td>
<td>Mycology and Aerobic Actinomycetes</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>F1</td>
<td>Yeast</td>
<td>195</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>F3</td>
<td>Candida Culture</td>
<td>196</td>
</tr>
<tr>
<td>Yersinia enterocolitica</td>
<td>X</td>
<td>GIP</td>
<td>Gastrointestinal Panel</td>
<td>212</td>
</tr>
<tr>
<td>Zaleplon</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>ZAP-70</td>
<td>ZAP70</td>
<td>ZAP-70 Analysis by Flow Cytometry</td>
<td>228</td>
<td></td>
</tr>
<tr>
<td>Zika virus</td>
<td>VBDM</td>
<td>Vector-Borne Disease–Molecular</td>
<td>206</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>X</td>
<td>R</td>
<td>Trace Metals</td>
<td>82</td>
</tr>
<tr>
<td>Zinc, urine</td>
<td>TMU</td>
<td>Trace Metals, Urine</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Zinc, whole blood</td>
<td>TMWB</td>
<td>Trace Metals, Whole Blood</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Ziprasidone</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Zolpidem</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>FTC</td>
<td>Forensic Toxicology, Criminalistics</td>
<td>109</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UT</td>
<td>Urine Toxicology</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zonisamide</td>
<td>ZE</td>
<td>Therapeutic Drug Monitoring, Extended</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Zopiclone/Eszopiclone</td>
<td>DFC</td>
<td>Drug–Facilitated Crime</td>
<td>113</td>
<td></td>
</tr>
</tbody>
</table>
Go ahead. Double-check.

Rely on these Benchtop Reference Guides in your laboratory.

**Hematology**
- Bone Marrow Benchtop Reference Guide (BMBRG)
- Hematology Benchtop Reference Guide (HBRG)
- Urinalysis Benchtop Reference Guide (UABRG)
- Body Fluids Benchtop Reference Guide (BFBRG)

**Microbiology**
- Mycology Benchtop Reference Guide (MBRG)
- Parasitology Benchtop Reference Guide (PBRG)
- Arthropod Benchtop Reference Guide (ABRG)
- Gram Stain Benchtop Reference Guide (GSBRG)

**Reproductive Medicine**
- Semen Analysis Benchtop Reference Guide (SABRG)

Ruggedly constructed, these handy, fully illustrated guides are built to withstand heavy use at the benchtop.

**ADD THEM TO YOUR ORDER OR PURCHASE ONLINE**
- Printed books at [estore.cap.org](http://estore.cap.org)
- Ebooks at [ebooks.cap.org](http://ebooks.cap.org)
Benefit from the most comprehensive range of scientifically developed programs.

- More than 700 Surveys and anatomic pathology education programs across 16 disciplines.
- Benchmark with more than 23,000 laboratories using CAP PT/EQA Surveys and anatomic education programs.
- 600 experts in laboratory medicine support CAP offerings.
<table>
<thead>
<tr>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2MG*</td>
<td>218</td>
<td>APC*</td>
<td>218</td>
<td>BNP5*</td>
<td>63</td>
</tr>
<tr>
<td>AABT*</td>
<td>235</td>
<td>APOE*</td>
<td>259</td>
<td>BNPO*</td>
<td>41</td>
</tr>
<tr>
<td>AABT1*</td>
<td>235</td>
<td>APS*</td>
<td>219</td>
<td>BOR*</td>
<td>186</td>
</tr>
<tr>
<td>AABT2*</td>
<td>235</td>
<td>APT*</td>
<td>155</td>
<td>BP*</td>
<td>199</td>
</tr>
<tr>
<td>AABT3*</td>
<td>235</td>
<td>APXBN*</td>
<td>168</td>
<td>BRAF</td>
<td>276</td>
</tr>
<tr>
<td>AAT</td>
<td>259</td>
<td>AQ*</td>
<td>96</td>
<td>BRAFV</td>
<td>298</td>
</tr>
<tr>
<td>ABF1*</td>
<td>153</td>
<td>AQ2*</td>
<td>96</td>
<td>BRCA</td>
<td>259</td>
</tr>
<tr>
<td>ABF2*</td>
<td>153</td>
<td>AQQ2*</td>
<td>44</td>
<td>BU*</td>
<td>89</td>
</tr>
<tr>
<td>ABF3*</td>
<td>153</td>
<td>AQ3*</td>
<td>96</td>
<td>BV*</td>
<td>191</td>
</tr>
<tr>
<td>ABGIC*</td>
<td>119</td>
<td>AQ3Q*</td>
<td>44</td>
<td>C1*</td>
<td>58-60</td>
</tr>
<tr>
<td>ABL</td>
<td>116</td>
<td>AQ4*</td>
<td>96</td>
<td>C3*</td>
<td>58-60</td>
</tr>
<tr>
<td>ABOSG*</td>
<td>234</td>
<td>AQ4Q*</td>
<td>44</td>
<td>C3X*</td>
<td>58-60</td>
</tr>
<tr>
<td>ABS*</td>
<td>117</td>
<td>AQQQ*</td>
<td>44</td>
<td>C4*</td>
<td>58-60</td>
</tr>
<tr>
<td>ABT*</td>
<td>235</td>
<td>ARP*</td>
<td>219</td>
<td>C7*</td>
<td>81</td>
</tr>
<tr>
<td>ABT1*</td>
<td>235</td>
<td>ASA*</td>
<td>160</td>
<td>CAMP*</td>
<td>187</td>
</tr>
<tr>
<td>ABT2*</td>
<td>235</td>
<td>ASC*</td>
<td>219</td>
<td>CBT*</td>
<td>239</td>
</tr>
<tr>
<td>ABT3*</td>
<td>235</td>
<td>ASO*</td>
<td>216</td>
<td>CBTI*</td>
<td>64</td>
</tr>
<tr>
<td>ABTH*</td>
<td>118</td>
<td>AUP</td>
<td>301</td>
<td>CCRF</td>
<td>14</td>
</tr>
<tr>
<td>ABU*</td>
<td>117</td>
<td>AUP1</td>
<td>301</td>
<td>CIP1</td>
<td>14</td>
</tr>
<tr>
<td>ABVD*</td>
<td>116</td>
<td>B27</td>
<td>248</td>
<td>CIP1</td>
<td>14</td>
</tr>
<tr>
<td>ACA*</td>
<td>218</td>
<td>BALL*</td>
<td>226</td>
<td>CPR*</td>
<td>216</td>
</tr>
<tr>
<td>ACE*</td>
<td>75</td>
<td>BCM*</td>
<td>185</td>
<td>CRT*</td>
<td>64</td>
</tr>
<tr>
<td>ACL*</td>
<td>219</td>
<td>BCP*</td>
<td>144</td>
<td>CRTI*</td>
<td>64</td>
</tr>
<tr>
<td>ADAT</td>
<td>236</td>
<td>BCP2*</td>
<td>144</td>
<td>CRTQ*</td>
<td>42</td>
</tr>
<tr>
<td>ADL*</td>
<td>75</td>
<td>BCR*</td>
<td>155</td>
<td>CRTQ*</td>
<td>48</td>
</tr>
<tr>
<td>AFD*</td>
<td>111</td>
<td>BCS*</td>
<td>185</td>
<td>CRTQ*</td>
<td>48</td>
</tr>
<tr>
<td>AFL*</td>
<td>153</td>
<td>BCS1*</td>
<td>185</td>
<td>CRTQ*</td>
<td>48</td>
</tr>
<tr>
<td>AG*</td>
<td>75</td>
<td>BDP*</td>
<td>240</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>AHIV*</td>
<td>243</td>
<td>BDP5*</td>
<td>240</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>AHIVW*</td>
<td>243</td>
<td>BDPV*</td>
<td>240</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>AHT*</td>
<td>218</td>
<td>BDPV5*</td>
<td>240</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>AL1*</td>
<td>106</td>
<td>BFC*</td>
<td>155</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>AL2*</td>
<td>106</td>
<td>BGL</td>
<td>257</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>AMH*</td>
<td>88</td>
<td>BGL1</td>
<td>257</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>ANA*</td>
<td>216</td>
<td>BGL2</td>
<td>258</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>APAPCE</td>
<td>306</td>
<td>BGS*</td>
<td>89</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>APAPCPT</td>
<td>305</td>
<td>BL*</td>
<td>107</td>
<td>CHER</td>
<td>168</td>
</tr>
<tr>
<td>APAPJE</td>
<td>306</td>
<td>BMD*</td>
<td>144</td>
<td>CH50*</td>
<td>223</td>
</tr>
<tr>
<td>APARPJT</td>
<td>305</td>
<td>BMV1*</td>
<td>90</td>
<td>CH50*</td>
<td>223</td>
</tr>
<tr>
<td>APAPKE</td>
<td>306</td>
<td>BMV2*</td>
<td>90</td>
<td>CY*</td>
<td>254</td>
</tr>
<tr>
<td>APAPKP*</td>
<td>305</td>
<td>BMV3*</td>
<td>90</td>
<td>CY*</td>
<td>254</td>
</tr>
<tr>
<td>APAPLE</td>
<td>306</td>
<td>BMV4*</td>
<td>90</td>
<td>CY*</td>
<td>254</td>
</tr>
<tr>
<td>APAPLPT</td>
<td>305</td>
<td>BMV5*</td>
<td>90</td>
<td>CY*</td>
<td>254</td>
</tr>
<tr>
<td>APAPME</td>
<td>306</td>
<td>BMV6*</td>
<td>90</td>
<td>CY*</td>
<td>254</td>
</tr>
<tr>
<td>APAPMPT</td>
<td>305</td>
<td>BNP*</td>
<td>63</td>
<td>CYP*</td>
<td>151</td>
</tr>
</tbody>
</table>

*Program Codes are ISO 17043 accredited.
<table>
<thead>
<tr>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZQ*</td>
<td>41</td>
<td>FCAL*</td>
<td>79</td>
<td>FSER*</td>
<td>197</td>
<td>HQBX1</td>
<td>290</td>
</tr>
<tr>
<td>CZVM</td>
<td>71</td>
<td>FCFS*</td>
<td>79</td>
<td>FSM*</td>
<td>197</td>
<td>HQBX2</td>
<td>290</td>
</tr>
<tr>
<td>CZX*</td>
<td>58-60</td>
<td>FCN*</td>
<td>218</td>
<td>FT*</td>
<td>79</td>
<td>HQBX3</td>
<td>290</td>
</tr>
<tr>
<td>D*</td>
<td>177</td>
<td>FF*</td>
<td>92</td>
<td>FTC*</td>
<td>109</td>
<td>HQBX4</td>
<td>290</td>
</tr>
<tr>
<td>D1*</td>
<td>179</td>
<td>FQAL*</td>
<td>196</td>
<td>G*</td>
<td>222</td>
<td>HCLB</td>
<td>287</td>
</tr>
<tr>
<td>D2*</td>
<td>179</td>
<td>FH1-FH4*</td>
<td>141</td>
<td>G6PDS*</td>
<td>79</td>
<td>HQHC</td>
<td>291</td>
</tr>
<tr>
<td>D3*</td>
<td>179</td>
<td>FH1P-FH4P*</td>
<td>141</td>
<td>GH2*</td>
<td>67</td>
<td>HQIP</td>
<td>287</td>
</tr>
<tr>
<td>D5*</td>
<td>181</td>
<td>FH3O*</td>
<td>45</td>
<td>GH5*</td>
<td>67</td>
<td>HQIPBX</td>
<td>289</td>
</tr>
<tr>
<td>D6*</td>
<td>183</td>
<td>FH4Q*</td>
<td>45</td>
<td>GHSI*</td>
<td>67</td>
<td>HQISH</td>
<td>291</td>
</tr>
<tr>
<td>D8*</td>
<td>184</td>
<td>FH9-FH10*</td>
<td>141</td>
<td>GHER2</td>
<td>297</td>
<td>HOMEL</td>
<td>294</td>
</tr>
<tr>
<td>D9*</td>
<td>183</td>
<td>FH9P-FH10P*</td>
<td>141</td>
<td>GHQ*</td>
<td>42</td>
<td>HOMMR</td>
<td>294</td>
</tr>
<tr>
<td>DADR1</td>
<td>251</td>
<td>FH9Q*</td>
<td>45</td>
<td>GIP*</td>
<td>212</td>
<td>HONEU</td>
<td>292</td>
</tr>
<tr>
<td>DADR2</td>
<td>251</td>
<td>FH13*</td>
<td>141</td>
<td>GIP5*</td>
<td>212</td>
<td>HQNSC</td>
<td>293</td>
</tr>
<tr>
<td>DAI*</td>
<td>103</td>
<td>FH13P*</td>
<td>141</td>
<td>GLI</td>
<td>277</td>
<td>QTAR</td>
<td>288</td>
</tr>
<tr>
<td>DAT*</td>
<td>236</td>
<td>FH13Q*</td>
<td>45</td>
<td>G0CB*</td>
<td>155</td>
<td>HWSU</td>
<td>288</td>
</tr>
<tr>
<td>DBGN*</td>
<td>168</td>
<td>FH16*</td>
<td>141</td>
<td>GSA*</td>
<td>68</td>
<td>HSCCP*</td>
<td>68</td>
</tr>
<tr>
<td>DEX*</td>
<td>178</td>
<td>FH16P*</td>
<td>141</td>
<td>H*</td>
<td>218</td>
<td>HUEP*</td>
<td>93</td>
</tr>
<tr>
<td>DFC*</td>
<td>113</td>
<td>FH17</td>
<td>141</td>
<td>HBF*</td>
<td>236</td>
<td>HV2*</td>
<td>206</td>
</tr>
<tr>
<td>DML*</td>
<td>248</td>
<td>FH17P</td>
<td>141</td>
<td>HBVL*</td>
<td>205</td>
<td>I</td>
<td>136</td>
</tr>
<tr>
<td>DMMPM*</td>
<td>112</td>
<td>FL*</td>
<td>224</td>
<td>HBVL5*</td>
<td>205</td>
<td>ICBE</td>
<td>15</td>
</tr>
<tr>
<td>DPATH</td>
<td>302</td>
<td>FL1*</td>
<td>224</td>
<td>HCl1*</td>
<td>188</td>
<td>ICBE1</td>
<td>15</td>
</tr>
<tr>
<td>DPATH1</td>
<td>302</td>
<td>FL2*</td>
<td>224</td>
<td>HC3*</td>
<td>188</td>
<td>ICSP</td>
<td>260</td>
</tr>
<tr>
<td>DPHC</td>
<td>296</td>
<td>FL3*</td>
<td>224</td>
<td>HC4*</td>
<td>202</td>
<td>ID1*</td>
<td>202</td>
</tr>
<tr>
<td>DSC*</td>
<td>155</td>
<td>FL4*</td>
<td>224</td>
<td>HC6*</td>
<td>192</td>
<td>ID1T*</td>
<td>202</td>
</tr>
<tr>
<td>DY*</td>
<td>88</td>
<td>FL5*</td>
<td>225</td>
<td>HC6X*</td>
<td>192</td>
<td>ID2*</td>
<td>204</td>
</tr>
<tr>
<td>E1*</td>
<td>194</td>
<td>FL6*</td>
<td>225</td>
<td>HC7*</td>
<td>192</td>
<td>ID3*</td>
<td>205</td>
</tr>
<tr>
<td>ECF</td>
<td>166</td>
<td>FL7*</td>
<td>225</td>
<td>HCC*</td>
<td>70</td>
<td>ID3Q</td>
<td>49</td>
</tr>
<tr>
<td>EGFR</td>
<td>276</td>
<td>FL8*</td>
<td>226</td>
<td>HCC2*</td>
<td>70</td>
<td>ID5*</td>
<td>205</td>
</tr>
<tr>
<td>EHE1*</td>
<td>149</td>
<td>FLAC*</td>
<td>188</td>
<td>HCV2*</td>
<td>205</td>
<td>IDO*</td>
<td>207</td>
</tr>
<tr>
<td>ELI*</td>
<td>236</td>
<td>FLD*</td>
<td>76</td>
<td>HCRTI*</td>
<td>64</td>
<td>IDPN*</td>
<td>211</td>
</tr>
<tr>
<td>EMB*</td>
<td>161</td>
<td>FLD2*</td>
<td>77</td>
<td>HCV2*</td>
<td>205</td>
<td>IDP*</td>
<td>211</td>
</tr>
<tr>
<td>EPO*</td>
<td>92</td>
<td>FLDQ*</td>
<td>42</td>
<td>HE*</td>
<td>140</td>
<td>IDR*</td>
<td>210</td>
</tr>
<tr>
<td>ESR*</td>
<td>145</td>
<td>FNA</td>
<td>311</td>
<td>HEP*</td>
<td>140</td>
<td>IFS</td>
<td>137</td>
</tr>
<tr>
<td>ESR1*</td>
<td>145</td>
<td>FNA1</td>
<td>311</td>
<td>HER2</td>
<td>297</td>
<td>IMD1</td>
<td>262</td>
</tr>
<tr>
<td>ESR2*</td>
<td>145</td>
<td>FNAG</td>
<td>312</td>
<td>HFC*</td>
<td>156</td>
<td>IG*</td>
<td>216</td>
</tr>
<tr>
<td>ESR3*</td>
<td>145</td>
<td>FNAG1</td>
<td>312</td>
<td>HFCI*</td>
<td>156</td>
<td>IGHV</td>
<td>279</td>
</tr>
<tr>
<td>ETB*</td>
<td>107</td>
<td>FNPX*</td>
<td>168</td>
<td>HG*</td>
<td>145</td>
<td>IGX*</td>
<td>216</td>
</tr>
<tr>
<td>ETME1</td>
<td>241</td>
<td>FOL*</td>
<td>92</td>
<td>HGM</td>
<td>260</td>
<td>IL*</td>
<td>216</td>
</tr>
<tr>
<td>EV*</td>
<td>62</td>
<td>FP*</td>
<td>91</td>
<td>HIVG*</td>
<td>206</td>
<td>IM*</td>
<td>216</td>
</tr>
<tr>
<td>EXM*</td>
<td>231</td>
<td>FP1B*</td>
<td>91</td>
<td>HMS*</td>
<td>68</td>
<td>IMD2</td>
<td>262</td>
</tr>
<tr>
<td>EXM2*</td>
<td>233</td>
<td>FP1T*</td>
<td>91</td>
<td>HPATH</td>
<td>150</td>
<td>IMD3</td>
<td>262</td>
</tr>
<tr>
<td>F*</td>
<td>195</td>
<td>FPX*</td>
<td>91</td>
<td>HPATH1</td>
<td>150</td>
<td>IMD3</td>
<td>262</td>
</tr>
<tr>
<td>F1*</td>
<td>195</td>
<td>FR</td>
<td>314</td>
<td>HPS*</td>
<td>188</td>
<td>IMW*</td>
<td>217</td>
</tr>
<tr>
<td>F3*</td>
<td>196</td>
<td>FR1</td>
<td>314</td>
<td>HPV*</td>
<td>202</td>
<td>IND*</td>
<td>197</td>
</tr>
</tbody>
</table>

*Program Codes are ISO 17043 accredited.
<table>
<thead>
<tr>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
</tr>
</thead>
<tbody>
<tr>
<td>ING*</td>
<td>90</td>
<td>LN25*</td>
<td>131</td>
<td>MRD2</td>
<td>279</td>
<td>P16</td>
<td>300</td>
</tr>
<tr>
<td>ISH</td>
<td>274</td>
<td>LN27*</td>
<td>131</td>
<td>MRS*</td>
<td>189</td>
<td>P53</td>
<td>296</td>
</tr>
<tr>
<td>ISH2</td>
<td>274</td>
<td>LN30*</td>
<td>131</td>
<td>MRS2M*</td>
<td>189</td>
<td>PAPCE</td>
<td>306</td>
</tr>
<tr>
<td>J*</td>
<td>230</td>
<td>LN31*</td>
<td>132</td>
<td>MRS5*</td>
<td>189</td>
<td>PAPCPT</td>
<td>305</td>
</tr>
<tr>
<td>J1*</td>
<td>230</td>
<td>LN32*</td>
<td>132</td>
<td>MRS5M*</td>
<td>189</td>
<td>PARJE</td>
<td>306</td>
</tr>
<tr>
<td>JAT*</td>
<td>231</td>
<td>LN33*</td>
<td>132</td>
<td>MSI</td>
<td>274</td>
<td>PARJPT</td>
<td>305</td>
</tr>
<tr>
<td>JATE1*</td>
<td>231</td>
<td>LN34*</td>
<td>132</td>
<td>MTR5*</td>
<td>194</td>
<td>PAPKE</td>
<td>306</td>
</tr>
<tr>
<td>JATQ*</td>
<td>51</td>
<td>LN35*</td>
<td>133</td>
<td>MTP</td>
<td>277</td>
<td>PAPKPT</td>
<td>305</td>
</tr>
<tr>
<td>JE1*</td>
<td>230</td>
<td>LN36*</td>
<td>133</td>
<td>MYG*</td>
<td>73</td>
<td>PCARI*</td>
<td>69</td>
</tr>
<tr>
<td>JIP*</td>
<td>208</td>
<td>LN37*</td>
<td>133</td>
<td>MVM</td>
<td>84</td>
<td>PAPLPT</td>
<td>305</td>
</tr>
<tr>
<td>K*</td>
<td>86</td>
<td>LN38*</td>
<td>133</td>
<td>MVP**</td>
<td>192</td>
<td>PAPME</td>
<td>306</td>
</tr>
<tr>
<td>KET*</td>
<td>68</td>
<td>LN39*</td>
<td>133</td>
<td>MXC</td>
<td>248</td>
<td>PAPMPT</td>
<td>305</td>
</tr>
<tr>
<td>KI67</td>
<td>300</td>
<td>LN40*</td>
<td>134</td>
<td>MXE</td>
<td>248</td>
<td>PARF*</td>
<td>245</td>
</tr>
<tr>
<td>KIT</td>
<td>276</td>
<td>LN41*</td>
<td>134</td>
<td>MYC</td>
<td>300</td>
<td>PCAR1*</td>
<td>90</td>
</tr>
<tr>
<td>KK*</td>
<td>86</td>
<td>LN42*</td>
<td>134</td>
<td>M2</td>
<td>300</td>
<td>PCARM*</td>
<td>69</td>
</tr>
<tr>
<td>KRAS</td>
<td>276</td>
<td>LN44*</td>
<td>134</td>
<td>N*</td>
<td>73</td>
<td>PCARMX*</td>
<td>69</td>
</tr>
<tr>
<td>KSA*</td>
<td>73</td>
<td>LN45*</td>
<td>133</td>
<td>NAT*</td>
<td>244</td>
<td>PCNEO*</td>
<td>227</td>
</tr>
<tr>
<td>KVM</td>
<td>94</td>
<td>LN46*</td>
<td>135</td>
<td>NB*</td>
<td>69</td>
<td>PCP1*</td>
<td>197</td>
</tr>
<tr>
<td>LBAS*</td>
<td>184</td>
<td>LN47*</td>
<td>135</td>
<td>NB2*</td>
<td>69</td>
<td>PCP2*</td>
<td>197</td>
</tr>
<tr>
<td>LBC*</td>
<td>156</td>
<td>LN48</td>
<td>135</td>
<td>NEO</td>
<td>275</td>
<td>PCP4*</td>
<td>197</td>
</tr>
<tr>
<td>LCW*</td>
<td>68</td>
<td>LPE*</td>
<td>80</td>
<td>NGC</td>
<td>310</td>
<td>PCT*</td>
<td>81</td>
</tr>
<tr>
<td>LKM*</td>
<td>221</td>
<td>LPX</td>
<td>190</td>
<td>NGC1</td>
<td>310</td>
<td>PDL1</td>
<td>299</td>
</tr>
<tr>
<td>LN2*</td>
<td>124</td>
<td>M*</td>
<td>78</td>
<td>NGS</td>
<td>266</td>
<td>PEX*</td>
<td>199</td>
</tr>
<tr>
<td>LN2BV*</td>
<td>124</td>
<td>MBT</td>
<td>178</td>
<td>NGSB1</td>
<td>267</td>
<td>PF*</td>
<td>170</td>
</tr>
<tr>
<td>LN3*</td>
<td>125</td>
<td>MC3*</td>
<td>181</td>
<td>NGSB3</td>
<td>269</td>
<td>PF1*</td>
<td>170</td>
</tr>
<tr>
<td>LN5*</td>
<td>125</td>
<td>MC4*</td>
<td>181</td>
<td>NGSB4</td>
<td>268</td>
<td>PGX</td>
<td>264</td>
</tr>
<tr>
<td>LN55*</td>
<td>125</td>
<td>ME</td>
<td>250</td>
<td>NGSB5</td>
<td>270</td>
<td>PGX1</td>
<td>264</td>
</tr>
<tr>
<td>LN6*</td>
<td>126</td>
<td>MGEN*</td>
<td>192</td>
<td>NGSE</td>
<td>271</td>
<td>PGX3</td>
<td>264</td>
</tr>
<tr>
<td>LN7*</td>
<td>126</td>
<td>MGL1</td>
<td>261-262</td>
<td>NGSET</td>
<td>272</td>
<td>PHG*</td>
<td>80</td>
</tr>
<tr>
<td>LN8*</td>
<td>127</td>
<td>MGL2</td>
<td>261-262</td>
<td>NGSHM</td>
<td>266</td>
<td>PIA*</td>
<td>171</td>
</tr>
<tr>
<td>LN9*</td>
<td>127</td>
<td>MGL3</td>
<td>261-262</td>
<td>NGSSST</td>
<td>266</td>
<td>PIAX*</td>
<td>171</td>
</tr>
<tr>
<td>LN11*</td>
<td>127</td>
<td>MGL4</td>
<td>261-262</td>
<td>NIPT</td>
<td>92</td>
<td>PIP</td>
<td>283</td>
</tr>
<tr>
<td>LN12*</td>
<td>128</td>
<td>MGL5</td>
<td>261-262</td>
<td>NOB*</td>
<td>110</td>
<td>PIP1</td>
<td>283</td>
</tr>
<tr>
<td>LN13*</td>
<td>128</td>
<td>MH0</td>
<td>278</td>
<td>NP</td>
<td>304</td>
<td>PipW</td>
<td>282</td>
</tr>
<tr>
<td>LN13C*</td>
<td>128</td>
<td>MH01</td>
<td>278</td>
<td>NP1</td>
<td>304</td>
<td>PipW1</td>
<td>282</td>
</tr>
<tr>
<td>LN15*</td>
<td>128</td>
<td>MH02</td>
<td>278</td>
<td>NTA*</td>
<td>107</td>
<td>PLA*</td>
<td>79</td>
</tr>
<tr>
<td>LN16*</td>
<td>129</td>
<td>MH03</td>
<td>278</td>
<td>NX*</td>
<td>73</td>
<td>PLTM*</td>
<td>173</td>
</tr>
<tr>
<td>LN17*</td>
<td>129</td>
<td>MH05</td>
<td>274,278</td>
<td>OCB*</td>
<td>157</td>
<td>PM1</td>
<td>295</td>
</tr>
<tr>
<td>LN18*</td>
<td>129</td>
<td>MK</td>
<td>295</td>
<td>OCBQ*</td>
<td>47</td>
<td>PM2</td>
<td>297</td>
</tr>
<tr>
<td>LN19*</td>
<td>129</td>
<td>MMA*</td>
<td>86</td>
<td>OFD*</td>
<td>105</td>
<td>PM3</td>
<td>298</td>
</tr>
<tr>
<td>LN20*</td>
<td>130</td>
<td>MMR</td>
<td>299</td>
<td>OLI*</td>
<td>78</td>
<td>PM5</td>
<td>295</td>
</tr>
<tr>
<td>LN21*</td>
<td>130</td>
<td>MPA</td>
<td>62</td>
<td>P*</td>
<td>198</td>
<td>PM6</td>
<td>298</td>
</tr>
<tr>
<td>LN22*</td>
<td>130</td>
<td>MPOX</td>
<td>203</td>
<td>P3*</td>
<td>198</td>
<td>PNH*</td>
<td>227</td>
</tr>
<tr>
<td>LN23*</td>
<td>130</td>
<td>MRD</td>
<td>279</td>
<td>P4*</td>
<td>198</td>
<td>POC1</td>
<td>54</td>
</tr>
<tr>
<td>LN24*</td>
<td>131</td>
<td>MRD1</td>
<td>279</td>
<td>P5*</td>
<td>198</td>
<td>POC2</td>
<td>54</td>
</tr>
</tbody>
</table>

*Program Codes are ISO 17043 accredited.
<table>
<thead>
<tr>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
<th>Program Code</th>
<th>Pg</th>
</tr>
</thead>
<tbody>
<tr>
<td>POC3</td>
<td>54</td>
<td>RHCWV*</td>
<td>243</td>
<td>SPN*</td>
<td>190</td>
<td>VBP1</td>
<td>284</td>
</tr>
<tr>
<td>POC4</td>
<td>54</td>
<td>RMAL*</td>
<td>199</td>
<td>ST*</td>
<td>191</td>
<td>VES*</td>
<td>170</td>
</tr>
<tr>
<td>POC6</td>
<td>54</td>
<td>RMC*</td>
<td>180</td>
<td>STFR*</td>
<td>84</td>
<td>VES1*</td>
<td>170</td>
</tr>
<tr>
<td>POC7</td>
<td>54</td>
<td>RNA</td>
<td>276</td>
<td>SV*</td>
<td>160</td>
<td>VF*</td>
<td>106</td>
</tr>
<tr>
<td>POC8</td>
<td>54</td>
<td>ROM1*</td>
<td>157</td>
<td>SW1*</td>
<td>83</td>
<td>VGS1*</td>
<td>183</td>
</tr>
<tr>
<td>POC9</td>
<td>54</td>
<td>RT*</td>
<td>146</td>
<td>SW2*</td>
<td>83</td>
<td>VGS2*</td>
<td>183</td>
</tr>
<tr>
<td>POC10</td>
<td>55</td>
<td>RT2*</td>
<td>146</td>
<td>SW4*</td>
<td>83</td>
<td>VIIT*</td>
<td>88</td>
</tr>
<tr>
<td>POC11</td>
<td>55</td>
<td>RT3*</td>
<td>146</td>
<td>T*</td>
<td>100</td>
<td>VLS*</td>
<td>206</td>
</tr>
<tr>
<td>POC12</td>
<td>55</td>
<td>RT3Q*</td>
<td>46</td>
<td>TBLA*</td>
<td>82</td>
<td>VLS2*</td>
<td>206</td>
</tr>
<tr>
<td>POC14</td>
<td>56</td>
<td>RT4*</td>
<td>146</td>
<td>THCB*</td>
<td>111</td>
<td>VM1*</td>
<td>242</td>
</tr>
<tr>
<td>POC15</td>
<td>56</td>
<td>RT4Q*</td>
<td>46</td>
<td>TICP</td>
<td>309</td>
<td>VM2*</td>
<td>242</td>
</tr>
<tr>
<td>POC16</td>
<td>56</td>
<td>RTQ*</td>
<td>46</td>
<td>TICP1</td>
<td>309</td>
<td>VM3*</td>
<td>242</td>
</tr>
<tr>
<td>PS*</td>
<td>237</td>
<td>RUB*</td>
<td>216</td>
<td>TM*</td>
<td>93</td>
<td>VM4*</td>
<td>243</td>
</tr>
<tr>
<td>PTHQ*</td>
<td>43</td>
<td>RUBX*</td>
<td>216</td>
<td>TMB</td>
<td>273</td>
<td>VM5*</td>
<td>243</td>
</tr>
<tr>
<td>PV*</td>
<td>160</td>
<td>RUR*</td>
<td>190</td>
<td>TMCA</td>
<td>237</td>
<td>VM6*</td>
<td>243</td>
</tr>
<tr>
<td>PV1*</td>
<td>160</td>
<td>RVBN*</td>
<td>168</td>
<td>TMCAD</td>
<td>237</td>
<td>VM6X*</td>
<td>243</td>
</tr>
<tr>
<td>QE*</td>
<td>221</td>
<td>RWBC*</td>
<td>145</td>
<td>TMCAE</td>
<td>237</td>
<td>VPBS*</td>
<td>149</td>
</tr>
<tr>
<td>QP231</td>
<td>27</td>
<td>S2*</td>
<td>217</td>
<td>TMCAF</td>
<td>238</td>
<td>VR1*</td>
<td>201</td>
</tr>
<tr>
<td>QPB10</td>
<td>28</td>
<td>S4*</td>
<td>217</td>
<td>TMO*</td>
<td>199</td>
<td>VR2*</td>
<td>201</td>
</tr>
<tr>
<td>QPC10</td>
<td>29</td>
<td>S5*</td>
<td>217</td>
<td>TMU*</td>
<td>108</td>
<td>VR3*</td>
<td>213</td>
</tr>
<tr>
<td>QPC25</td>
<td>29</td>
<td>SLC*</td>
<td>81</td>
<td>TMWB*</td>
<td>108</td>
<td>VR3M*</td>
<td>213</td>
</tr>
<tr>
<td>QPD10</td>
<td>30</td>
<td>SAR*</td>
<td>275</td>
<td>TMX*</td>
<td>93</td>
<td>VR4*</td>
<td>201</td>
</tr>
<tr>
<td>QPD25</td>
<td>30</td>
<td>S巴斯*</td>
<td>184</td>
<td>TPM</td>
<td>265</td>
<td>VRE*</td>
<td>193</td>
</tr>
<tr>
<td>QT1</td>
<td>32</td>
<td>SC*</td>
<td>160</td>
<td>TRC*</td>
<td>236</td>
<td>VS*</td>
<td>191</td>
</tr>
<tr>
<td>QT2</td>
<td>32</td>
<td>SCI*</td>
<td>160</td>
<td>TTD*</td>
<td>213</td>
<td>VS1*</td>
<td>191</td>
</tr>
<tr>
<td>QT3</td>
<td>33</td>
<td>SCDD*</td>
<td>110</td>
<td>TVAG*</td>
<td>193</td>
<td>VS2*</td>
<td>193</td>
</tr>
<tr>
<td>QT4</td>
<td>33</td>
<td>SCM1*</td>
<td>157</td>
<td>U*</td>
<td>72</td>
<td>WBR*</td>
<td>71</td>
</tr>
<tr>
<td>QT5</td>
<td>34</td>
<td>SCM2*</td>
<td>157</td>
<td>UAA*</td>
<td>154</td>
<td>WBGQ*</td>
<td>41</td>
</tr>
<tr>
<td>QT7</td>
<td>35</td>
<td>SCO</td>
<td>138</td>
<td>UAA1*</td>
<td>154</td>
<td>WID*</td>
<td>199</td>
</tr>
<tr>
<td>QT8</td>
<td>35</td>
<td>SCP*</td>
<td>239</td>
<td>UBJP*</td>
<td>80</td>
<td>WP3*</td>
<td>172</td>
</tr>
<tr>
<td>QT10</td>
<td>36</td>
<td>SCS*</td>
<td>147</td>
<td>UDC*</td>
<td>104</td>
<td>WP4*</td>
<td>172</td>
</tr>
<tr>
<td>QT15</td>
<td>37</td>
<td>SDS</td>
<td>106</td>
<td>UDS*</td>
<td>102</td>
<td>WP6*</td>
<td>172</td>
</tr>
<tr>
<td>QT16</td>
<td>38</td>
<td>SE*</td>
<td>221</td>
<td>UDS6*</td>
<td>102</td>
<td>WP9*</td>
<td>172</td>
</tr>
<tr>
<td>QT17</td>
<td>38</td>
<td>SEC</td>
<td>263</td>
<td>UDSM</td>
<td>114</td>
<td>WP10*</td>
<td>172</td>
</tr>
<tr>
<td>R*</td>
<td>82</td>
<td>SEC1</td>
<td>263</td>
<td>UHC*</td>
<td>158</td>
<td>Y*</td>
<td>88</td>
</tr>
<tr>
<td>RAG*</td>
<td>234</td>
<td>SFLC*</td>
<td>223</td>
<td>UMC*</td>
<td>158</td>
<td>YBC*</td>
<td>196</td>
</tr>
<tr>
<td>RAP*</td>
<td>93</td>
<td>SM*</td>
<td>160</td>
<td>UPBG*</td>
<td>74</td>
<td>YVM</td>
<td>94</td>
</tr>
<tr>
<td>RBCAT*</td>
<td>234</td>
<td>SM1CD*</td>
<td>160</td>
<td>URC*</td>
<td>155</td>
<td>YY*</td>
<td>88</td>
</tr>
<tr>
<td>RDS*</td>
<td>221</td>
<td>SM2CD*</td>
<td>160</td>
<td>UT*</td>
<td>100</td>
<td>Z*</td>
<td>58-60</td>
</tr>
<tr>
<td>RETT</td>
<td>264</td>
<td>SMCD*</td>
<td>160</td>
<td>UTCO</td>
<td>138</td>
<td>ZAP70*</td>
<td>228</td>
</tr>
<tr>
<td>RF*</td>
<td>216</td>
<td>SO*</td>
<td>98</td>
<td>UVM</td>
<td>74</td>
<td>ZE*</td>
<td>62</td>
</tr>
<tr>
<td>RFAV1</td>
<td>228</td>
<td>SOQ*</td>
<td>44</td>
<td>V*</td>
<td>223</td>
<td>ZT*</td>
<td>62</td>
</tr>
<tr>
<td>RFAV2</td>
<td>228</td>
<td>SP*</td>
<td>190</td>
<td>VBDM*</td>
<td>206</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RFAV3</td>
<td>228</td>
<td>SP1*</td>
<td>190</td>
<td>VBF*</td>
<td>154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RFX*</td>
<td>216</td>
<td>SPE*</td>
<td>80</td>
<td>VBP</td>
<td>284</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Program Codes are ISO 17043 accredited.
Accreditation to ISO 17043:2010 for proficiency testing

The College of American Pathologists (CAP), the leading organization of board-certified pathologists, serves patients, pathologists, and the public by fostering and advocating excellence in the practice of pathology and laboratory medicine worldwide.

As an accrediting organization ourselves, we recognize the value in having an independent assessment of our management system for our proficiency testing programs. That’s why the CAP is accredited by the ANSI National Accreditation Board (ANAB) to the international standard ISO 17043:2010 for proficiency testing.

Not only are our PT/EQA programs designed by experts in their field to help you verify the accuracy and reliability of your testing process, but you can also be confident that the programs we provide are of the highest quality. As medicine, technology, and pathology evolve, our comprehensive range of PT/EQA programs also continues to evolve, helping your laboratory to keep ahead of new technologies and rapidly changing testing requirements.

Those PT/EQA programs within the scope of accreditation are identified within the program code index. To view our full scope of accreditation, visit https://www.cap.org/ISO-Accreditation.

We’re honored to partner with you. Together, we move forward to achieve better patient care.
Take Pride in Your Perseverance

As a medical laboratory professional, it’s always taken a certain amount of persistence to do what you do.

But lately, faced with a seemingly endless array of challenges—supply chain issues, staffing shortages, ongoing global pandemics—it requires even more devotion on your part. Your dedication to high-quality patient care, and to unshakable accuracy, is nothing short of inspiring.

In fact, your day-in, day-out perseverance is what drives us to partner with laboratory professionals around the globe, tapping into the expertise of the world’s largest organization of board-certified pathologists. Your efforts motivate us to elevate the quality of laboratory medicine by designing best-in-class solutions that will help you achieve operational excellence and diagnostic confidence.

As you continue to model tenacity and dedication—maintaining consistency and accuracy in the laboratory—we vow to be just as tenacious. To join you. To keep developing premium proficiency testing and external quality assessment (PT/EQA) programs, quality improvement solutions, protocols, and guidelines.

Together we can take pride in our tireless endeavor to achieve the best outcomes for patients.

Challenges documenting your competency assessment records?

Whether for a single laboratory or an entire network, Competency Assessment Hub offers an easy solution. CLIA requirements for your staff and operations don’t change: if it’s not documented at inspection time, it’s considered a deficiency. The CAP offers the new Competency Assessment Hub to help you align and document your competency assessment plan and avoid the deficiency.

- Coverage for all records, whether for an entire network or a single laboratory
- Library of 67 courses in 11 laboratory disciplines to provide needed continuing education (CE) credits for staff
- Hundreds of prewritten questions to customize assessments for your laboratory
- Online tools to build assessments, courses, and profiles that align with your written procedures

Add the appropriate Competency Assessment Hub subscription to your order.
Built on a foundation of pathologist expertise, the College of American Pathologists partners with laboratories worldwide to elevate the quality of laboratory medicine with best-in-class solutions designed to drive operational excellence, achieve diagnostic confidence, and ensure the best patient care.

- Choose from more than 700 programs across 16 disciplines, including a comprehensive genetics and molecular pathology portfolio.
- Learn about new programs that enable you to compare multiple testing platforms for respiratory illnesses, assess your staff’s technical competency for body fluid review, and ensure optimal performance of cardiac evaluation assays with calibration verification and linearity for high-sensitivity Troponin I.
- Get connected to direct transmission for faster and more accurate PT/EQA result reporting.
- Offer your entire staff more than 100 CE credits included in CAP PT/EQA programs.

PLACE YOUR 2023 ORDER TODAY.