Table 1. Subtypes of Kinase-rearranged Spindle Cell Neoplasms

Tumor type	Kinase genes involved	Clinical behavior	Clinical presentation	Histologic features	IHC
Infantile fibrosarcoma	*NTRK3>>>NTRK1/2, RET, MET, RAF1, BRAF, ALK*	May recur, rarely metastasizing	Infants; extremities; rapidly growing	Densely cellular, fascicular, primitive spindle cells	Pan-TRK+
Inflammatory myofibroblastic tumor **Epithelioid inflammatory myofibroblastic sarcoma	*ALK>> ROS1, NTRK3, RET, PDGFRB* ***RANBP2::ALK, RRBP1::ALK*	May recur, rarely metastasizing **Clinically aggressive	Children and young adults; visceral and central body cavity sites	Variable cellularity/histologic features, brisk inflammation	ALK >> ROS1; SMA, desmin
Kinase-rearranged spindle cell neoplasms	*NTRK1>>NTRK2/3, RET, RAF1, BRAF, ALK, ROS1, MET*	May recur, rarely metastasizing	Wide age range; subcutaneous soft tissue or bone	Lipofibromatosis-like infiltration of fat, keloidal stromal collagen, perivascular hyalinization	S100, CD34, Pan-TRK >> ALK, ROS1
Superficial *ALK*-rearranged myxoid spindle cell neoplasm	*ALK*	Clinically indolent	Wide age range; dermal/subcutaneous	Whorls in myxohyaline stroma	ALK, S100, CD34

Abbreviation: IHC, immunohistochemistry.