

CD 117/C-kit Immunohistochemistry

Test Description

CD117 (KIT) is a type III receptor tyrosine kinase operating in cell signal transduction in several cell types. Normally KIT is activated (phosphorylated) by binding of its ligand, the stem cell factor. This leads to a phosphorylation cascade ultimately activating various transcription factors in different cell types. Such activation regulates apoptosis, cell differentiation, proliferation, chemotaxis, and cell adhesion. KIT-dependent cell types include mast cells, some hematopoietic stem cells, germ cells, melanocytes, and Cajal cells of the gastrointestinal tract, and neoplasms of these cells are examples of KIT-positive tumors. Other KIT-positive normal cells include epithelial cells in skin adnexa, breast, and subsets of cerebellar neurons. KIT positivity has been variably reported in sarcomas such as angiosarcoma, Ewing sarcoma, synovial sarcoma, leiomyosarcoma, and MFH

Specimen

Sample Type: FFPE block MOLQ B-2102/22

Site: Intra-abdominal Mass

Pathology ID: MOLQ/B- 2388/22

Disease: Benign Spindle cell Neoplasm

Interpretation

Positive: Strong, brown, granular cytoplasmic staining.

Negative: Absence of strong granular cytoplasmic staining.

Methodology

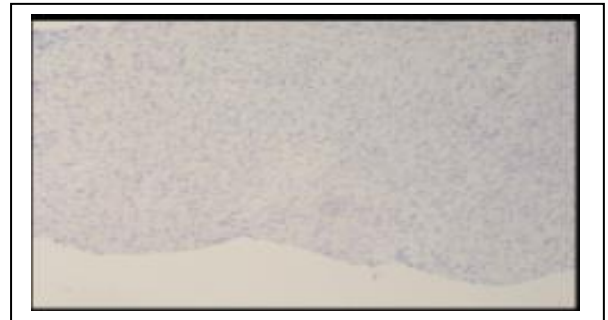
Immunostaining for CD117 stain.

Note

Pathologic activation of KIT through gain-of-function mutations leads to neoplasia of KIT-dependent and KIT-positive cell types at least in three different systems: mast cells/myeloid cells--mastocytosis/acute myeloid leukemia, germ cells--seminoma, and Cajal cells--gastrointestinal stromal tumors (GISTs). KIT tyrosine kinase inhibitors such as imatinib mesylate are the generally accepted treatment of metastatic GISTs

References

1. Rosai and Ackerman's Surgical Pathology.
2. Immunohistochemistry for predictive biomarkers in non-small cell lung cancer Mari Mino-Kenudson Transl Lung Cancer Res. 2017 Oct; 6(5).
3. KIT (CD117): a review on expression in normal and neoplastic tissues, and mutations and their clinicopathologic correlation

CD117/C-kit: Negative**CD117 IHC**

Microscopy Evaluation

CD117 staining for tumor cells: NEGATIVE

Reviewed By



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CD117 IHC

PATIENT
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