F13A1 Antibody for IHC / Coagulation factor XIII A chain [clone MSVA-813R] (V6072)

Catalog No.	Formulation	Size
V6072-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6072-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-813R
UniProt	P00488
Localization	Cytoplasm, Secreted
Applications	Immunohistochemistry (FFPE): 1:100-1:200
Limitations	This F13A1 Antibody for IHC is available for research use only.



F13A1 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of Coagulation factor XIII A chain F13A1 in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal antibody clone MSVA-813R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates predominant cytoplasmic localization in scattered stromal and histiocytic cell populations, consistent with expression in dermal dendrocytes and macrophage-lineage cells, while most epithelial compartments remain largely negative. In normal tissue microarrays, positive cells are observed in skin, lymph node, and placenta. Within tumor tissue microarrays, cytoplasmic staining is present in subsets of fibrohistiocytic and macrophage-rich tumors, whereas many epithelial malignancies demonstrate absent or minimal labeling. Evaluation across large TMA panels enables direct comparison of F13A1 expression across diverse tissue types under standardized conditions. The observed staining patterns align with reported expression profiles in the Human Protein Atlas and support its use as a marker of dermal dendrocytes and macrophage-associated cells.

Description

F13A1 Antibody for IHC recognizes Coagulation factor XIII A, the catalytic transglutaminase subunit encoded by the F13A1 gene on chromosome 6p25.1. Coagulation factor XIII A, also referred to as Factor XIIIa or Factor XIII A chain, is a cytoplasmic enzyme expressed in platelets, macrophages, dermal dendritic cells, and selected stromal populations. Upon activation by thrombin and calcium, the inactive zymogen is cleaved to generate active Factor XIIIa, which catalyzes covalent cross-linking of fibrin monomers. This reaction stabilizes the fibrin clot and confers resistance to fibrinolysis, representing the final enzymatic step of the coagulation cascade.

Coagulation factor XIII A belongs to the transglutaminase family and contains a catalytic core domain that mediates formation of epsilon-gamma glutamyl-lysine isopeptide bonds between substrate proteins. In plasma, factor XIII circulates as a heterotetramer composed of two catalytic A subunits and two non-catalytic B subunits. Following thrombin-mediated activation, the B subunits dissociate and the A subunits become enzymatically active. Beyond clot stabilization, Factor XIIIa contributes to extracellular matrix remodeling by cross-linking fibronectin, collagen, and other structural proteins, supporting wound healing and tissue repair processes.

In normal tissues, Coagulation factor XIII A expression is prominent in dermal dendrocytes and tissue macrophages. It is also detectable in placenta and bone marrow-derived cells. In fibrohistiocytic lesions, F13A1 Antibody for IHC is frequently applied in research settings to help characterize dermatofibroma, which typically demonstrates strong cytoplasmic positivity in spindle-shaped dermal cells, whereas dermatofibrosarcoma protuberans generally lacks staining. Expression patterns have also been described in inflammatory and reparative conditions involving macrophage activation and stromal remodeling.

Inherited deficiency of Factor XIII results in impaired clot stability and delayed wound healing, underscoring the biologic importance of F13A1 function. Altered expression has been observed in inflammatory and fibrotic disorders, reflecting its broader role in immune cell biology and extracellular matrix stabilization. Clone MSVA-813R is a rabbit monoclonal antibody suitable for detecting Coagulation factor XIII A expression in immunohistochemistry and related research applications, where staining is typically cytoplasmic in dendritic or macrophage-lineage cells.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the F13A1 Antibody for IHC / Coagulation factor XIII A chain should be determined by the researcher.

2. This F13A1 / Coagulation factor XIII A chain antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment of human Factor XIIIa protein (amino acids 46-181) (exact sequence is proprietary) was used as the immunogen for the F13A1 / Coagulation factor XIII A chain antibody for IHC.

Storage

F13A1 / Coagulation factor XIII A chain antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

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