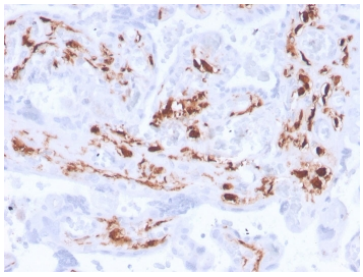
F13A1 Antibody Recombinant Rabbit MAb / Factor XIIIa [clone F13A1/3772R] (V7762)

Catalog No.	Formulation	Size
V7762-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V7762-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V7762SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

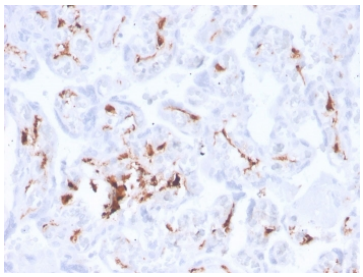
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	F13A1/3772R
Purity	Protein A affinity chromatography
UniProt	P00488
Localization	Cytoplasmic, secreted
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This recombinant F13A1 antibody is available for research use only.



Immunohistochemistry of F13A1 antibody in human placenta. FFPE human placental tissue was stained with F13A1 antibody recombinant rabbit mAb F13A1/3772R. Distinct cytoplasmic HRP-DAB brown staining is observed in stromal and intervillous macrophage-lineage cells within chorionic villi, consistent with known Factor XIII A chain expression in placental macrophages. Surrounding trophoblastic and endothelial cells show minimal to absent staining. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 Tris-EDTA buffer for 20 minutes followed by cooling prior to antibody incubation.



IHC staining of FFPE human placenta with recombinant F13A1 antibody (clone F13A1/3772R). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.

Description

F13A1 Antibody Recombinant Rabbit MAb F13A1/3772R recognizes Factor XIII A chain, the catalytic subunit of coagulation factor XIII encoded by the F13A1 gene on chromosome 6p25.1. Factor XIII A chain is a cytoplasmic transglutaminase expressed in platelets, monocytes, macrophages, and dermal dendritic cells. Upon activation by thrombin and calcium, the inactive zymogen is cleaved to generate the enzymatically active Factor XIIIa form, which cross-links fibrin monomers and stabilizes the fibrin clot. This cross-linking activity is essential for maintaining clot strength and resistance to premature fibrinolysis.

Factor XIII A chain belongs to the transglutaminase family and contains a catalytic core domain responsible for forming epsilon-gamma glutamyl-lysine isopeptide bonds between substrate proteins. In circulation, coagulation factor XIII exists as a heterotetramer composed of two A subunits and two B subunits. After proteolytic activation, the B subunits dissociate and the A subunit becomes catalytically active. Beyond fibrin stabilization, Factor XIIIa participates in extracellular matrix remodeling by cross-linking fibronectin, collagen, and other structural proteins, supporting tissue repair and wound healing processes.

In normal tissues, Factor XIII A chain expression is prominent in dermal dendrocytes of the skin and in subsets of tissue macrophages and stromal cells. It is also detectable in placenta and bone marrow-derived cells. In diagnostic pathology research, F13A1 antibody staining is frequently used to characterize fibrohistiocytic lesions. Dermatofibroma typically demonstrates strong cytoplasmic positivity in spindle-shaped dermal cells, while dermatofibrosarcoma protuberans generally lacks staining, supporting its utility in differential evaluation. Expression has also been observed in inflammatory and reparative conditions where macrophage and stromal activation occur.

Disruption of F13A1 function is associated with inherited Factor XIII deficiency, a rare bleeding disorder characterized by impaired clot stability and delayed wound healing. Altered expression patterns have also been reported in inflammatory and fibrotic diseases, reflecting its broader role in matrix stabilization and immune cell biology. F13A1 Antibody Recombinant Rabbit MAb F13A1/3772R is suitable for detecting Factor XIII A chain expression in relevant research applications, where staining is typically cytoplasmic in positive dendritic or macrophage-lineage cells.

The intracellular localization and enzymatic function of Factor XIII A chain make it a valuable marker for studying coagulation biology, tissue remodeling pathways, and macrophage-associated processes in both normal and pathological contexts.

Application Notes

Optimal dilution of the F13A1 antibody should be determined by the researcher.

Immunogen

A recombinant human partial protein (amino acids 46-181) was used as the immunogen for this F13A1 antibody recombinant rabbit mAb F13A1/3772R.

Storage

Store the F13A1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).