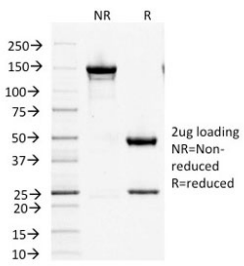
Factor XIIIa Antibody Mouse Monoclonal [clone F13A1/1447] (V8428)

Catalog No.	Formulation	Size
V8428-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8428-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8428SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	F13A1/1447
Purity	Protein G affinity chromatography
UniProt	P00488
Localization	Cytoplasmic, secreted
Applications	ELISA: order Ab without BSA for coating
Limitations	This Factor XIIIa antibody is available for research use only.



SDS-PAGE analysis of purified, BSA-free Factor XIIIa antibody mouse monoclonal F13A1/1447 as confirmation of integrity and purity.

Description

Factor XIIIa Antibody Mouse Monoclonal F13A1/1447 recognizes Factor XIII A chain, a transglutaminase enzyme encoded by the F13A1 gene located on chromosome 6p25.1. Factor XIII A chain is a cytoplasmic protein primarily expressed in dermal dendritic cells, macrophages, platelets, and select stromal cell populations. Upon activation by thrombin and calcium, the zymogen form of Factor XIII is converted into the active enzyme Factor XIIIa, which catalyzes cross-linking of fibrin monomers and stabilizes the fibrin clot. This enzymatic cross-linking function is essential for maintaining clot integrity and resistance to fibrinolysis.

Factor XIIIa antibody is widely used in research and diagnostic pathology to identify dermal dendrocytes and macrophage-lineage cells. The protein belongs to the transglutaminase family and contains catalytic domains that mediate the formation of epsilon-gamma glutamyl-lysine isopeptide bonds between substrate proteins. In addition to its role in hemostasis, Factor XIII A chain contributes to wound healing, extracellular matrix remodeling, and inflammatory processes by cross-linking structural proteins such as fibronectin and collagen.

In normal tissues, Factor XIII A chain is highly expressed in dermal dendritic cells of the skin and in subsets of connective tissue stromal cells. It is also detectable in placental tissue and bone marrow-derived cells. In surgical pathology, Factor XIIIa antibody staining is commonly applied in the evaluation of fibrohistiocytic lesions. Dermatofibroma typically demonstrates strong cytoplasmic positivity in spindle-shaped dermal cells, whereas dermatofibrosarcoma protuberans is generally negative, making this marker useful in differential assessment. Expression has also been described in inflammatory and reactive conditions involving tissue remodeling.

The F13A1 gene encodes the catalytic A subunit of coagulation factor XIII, which circulates in plasma as a heterotetramer composed of two A subunits and two B subunits. Following thrombin-mediated cleavage, the A subunit dissociates and becomes enzymatically active. Structurally, Factor XIII A chain contains beta sandwich domains, a catalytic core domain, and beta barrel domains that regulate activation and substrate interaction. Factor XIIIa Antibody mouse monoclonal F13A1/1447 is suitable for detecting Factor XIII A chain expression in relevant research applications, where staining is typically cytoplasmic in positive dendritic or stromal cells.

Beyond coagulation, Factor XIII A chain participates in extracellular matrix assembly and stabilization, linking it to tissue repair and remodeling pathways. Deficiency or dysfunction of Factor XIII can result in bleeding disorders and impaired wound healing, while altered expression patterns have been observed in certain inflammatory and fibrotic conditions.

Application Notes

Optimal dilution of the Factor XIIIa antibody should be determined by the researcher.

Immunogen

A recombinant fragment of human Factor XIIIa was used as the immunogen for the Factor XIIIa antibody mouse monoclonal F13A1/1447

Storage

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

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