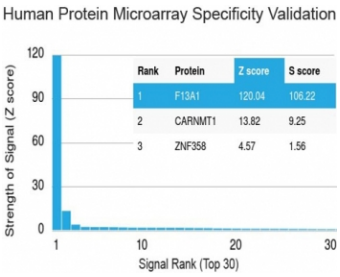
Factor XIIIa Antibody - HuProt Validation [clone F13A1/1448] (V3499)

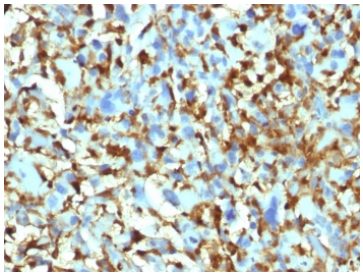
Catalog No.	Formulation	Size
V3499-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3499-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3499SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3499IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

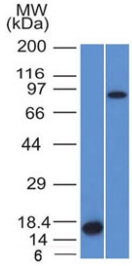
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	F13A1/1448
Purity	Protein G affinity chromatography
UniProt	P00488
Localization	Cytoplasmic, secreted
Applications	ELISA : 2-4ug/ml (order BSA/azide-free format) Flow Cytometry : 0.5-1ug/10^6 cells Immunofluorescence : 0.5-1ug/ml Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Factor XIIIa antibody is available for research use only.



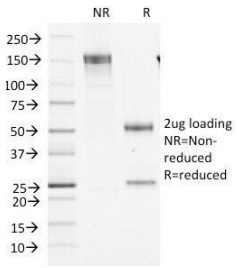
Human protein microarray specificity validation of Factor XIIIa Antibody - HuProt Validation. Analysis of the HuProt(TM) microarray containing more than 19,000 full-length human proteins was performed using Factor XIIIa antibody clone F13A1/1448. The antibody demonstrates strongest binding to F13A1 with a Z-score of 120.04 and an S-score of 106.22, showing clear separation from other proteins on the array, including CARNMT1 and ZNF358. These results demonstrate the high specificity of clone F13A1/1448 for Factor XIII A chain.
Z- and S-score explanation: The Z-score represents the strength of the signal generated when the antibody, in combination with a fluorescently tagged anti-IgG secondary antibody, binds to a specific protein on the HuProt(TM) array. Z-scores are expressed in standard deviations above the mean signal of all proteins tested. Proteins are ranked in descending order according to Z-score. The S-score represents the difference between sequential Z-scores and reflects the relative specificity of the antibody for its intended target compared to potential off-target interactions.



Immunohistochemistry of Factor XIIIa antibody in human histiocytoma. FFPE human histiocytoma tissue was stained with human protein microarray validated Factor XIIIa antibody clone F13A1/1448. Strong cytoplasmic HRP-DAB brown staining is observed in numerous spindle-shaped and histiocytic tumor cells, consistent with known Factor XIII A chain expression in fibrohistiocytic lesions. Background stromal elements show minimal staining. Heat induced epitope retrieval was performed by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 minutes prior to antibody incubation.



Western blot testing of 1) partial human recombinant protein and 2) human HeLa lysate with Factor XIIIa antibody (clone F13A1/1448). Expected molecular weight ~83 kDa.



SDS-PAGE Analysis of Purified, BSA-Free Factor XIIIa Antibody (clone F13A1/1448). Confirmation of Integrity and Purity of the Antibody.

Description

Factor XIIIa Antibody - HuProt Validation clone F13A1/1448 recognizes Factor XIII A chain, the catalytic transglutaminase subunit encoded by the F13A1 gene on chromosome 6p25.1. Factor XIII A chain is a cytoplasmic enzyme expressed in platelets, macrophages, dermal dendritic cells, and select stromal cell populations. Following activation by thrombin and calcium, the inactive zymogen is cleaved to generate active Factor XIIIa, which stabilizes fibrin clots by catalyzing covalent cross-linking of fibrin monomers. This final step of the coagulation cascade is essential for clot strength and resistance to fibrinolysis.

Factor XIII A chain belongs to the transglutaminase family and contains a catalytic core domain that forms 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. Upon activation, the B subunits dissociate and the A subunits become enzymatically active. Beyond its established role in hemostasis, Factor XIIIa contributes to extracellular

matrix stabilization by cross-linking fibronectin, collagen, and other structural proteins, supporting wound healing and tissue remodeling.

In normal tissues, Factor XIII A chain is highly expressed in dermal dendrocytes and tissue macrophages. It is also detectable in placenta and bone marrow-derived cells. In fibrohistiocytic lesions, Factor XIIIa antibody staining is frequently used to characterize dermatofibroma, which typically shows strong cytoplasmic positivity, while dermatofibrosarcoma protuberans generally lacks expression. Expression has also been reported in inflammatory and reparative conditions involving macrophage activation and stromal remodeling.

This clone has been validated using the HuProt(TM) human protein microarray platform containing more than 19,000 full-length human proteins. HuProt validation demonstrates strong target selectivity for F13A1 with clear separation from unrelated proteins, supporting high specificity and minimal cross-reactivity. Factor XIIIa Antibody - HuProt validation clone F13A1/1448 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.

Application Notes

Titering of the Factor XIIIa antibody may be required for optimal performance.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

A human partial recombinant protein corresponding to amino acids 46-181 was used as the immunogen for the Factor XIIIa antibody with HuProt validation.

Storage

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