abcam

ab1834

Anti-Factor XIIIa antibody [AC-1A1]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.3 - 7.5 Preservative: 0.05% Sodium azide Constituents: 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human F13A1. The exact immunogen used to generate this antibody is proprietary information. Database link P00488
Clone number	AC-1A1
Purity	IgG fraction
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse
Dilution info	-
Notes	-

ELISA

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse

Dilution info	-
Notes	-

ICC/IF

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Expected

Species	Mouse
Dilution info	-
Notes	This antibody may be diluted to a titer of 1/25 - 1/50 in an ABC method.

Species	Human
Dilution info	-
Notes	This antibody may be diluted to a titer of 1/25 - 1/50 in an ABC method.

Target data

See full target information F13A1

Function	Factor XIII is activated by thrombin and calcium ion to a transglutaminase that catalyzes the formation of gamma-glutamyl-epsilon-lysine cross-links between fibrin chains, thus stabilizing the fibrin clot. Also cross-link alpha-2-plasmin inhibitor, or fibronectin, to the alpha chains of fibrin.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

This antibody recognizes both the dimer and monomer forms.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Factor XIIIa also known as Factor 13a Factor XIII or Factor 13 is an enzyme that plays an important role in blood coagulation. Its mass is approximately 83 kDa. This enzyme is part of the transglutaminase family and is predominantly found in plasma and platelets. Factor XIIIa becomes active when thrombin and calcium ions cleave its A subunits converting it from an inactive zymogen known simply as Factor XIII or Factor 13 to its active form. The best assays for Factor XIIIa often measure its transglutaminase activity which facilitates the cross-linking of fibrin stabilizing blood clots.
Biological function summary	Factor XIIIa is important for hemostasis facilitating the final stages of blood clot formation by cross-linking fibrin polymers. This enzyme does not function in isolation; it forms a tetrameric complex with two A subunits and two B subunits. The active form Factor XIIIa catalyzes the formation of covalent bonds between glutamine and lysine residues in fibrin chains. This enhances the mechanical strength and resistance of the clot preventing premature degradation.
Pathways	Factor XIIIa is part of the coagulation pathway specifically involved in the stabilization of fibrin in the final steps of the cascade. It interacts closely with proteins like fibrinogen and thrombin as these proteins are essential in the conversion of Factor XIII to Factor XIIIa and in clot formation. Factor XIIIa also plays a role in the wound healing process by stabilizing the ECM (extracellular matrix) through cross-linking fibrin fibronectin and collagen.
Associated diseases and disorders	Factor XIIIa deficiency can lead to bleeding diathesis a condition characterized by poor clot stability and prolonged bleeding. This deficiency is often congenital and involves reduced levels or activity of Factor XIII. Conversely overactivity or dysregulation of Factor XIIIa may contribute to thrombotic disorders where abnormal clot formation can lead to conditions like deep vein thrombosis. Clinically understanding Factor XIIIa interactions especially its functional relationships with fibrinogen and thrombin is critical in managing these bleeding and thrombotic disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

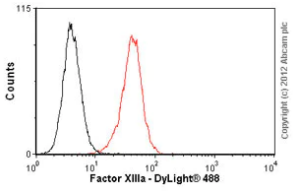
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

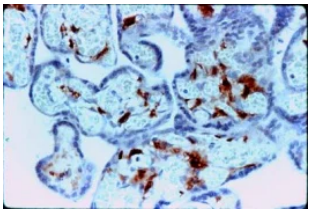
5 product images



Flow Cytometry - Anti-Factor XIIIa antibody [AC-1A1] (ab1834)

Factor XIIIa Flow Cytometry staining using mouse Anti-Factor XIIIa antibody

Overlay histogram showing A549 cells stained with ab16956 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab16956, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

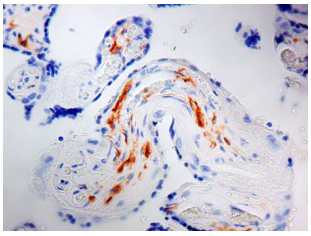


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Factor XIIIa antibody [AC-1A1] (ab1834)

Factor XIIIa Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Factor XIIIa antibody

ab1834 - immunohistochemistry

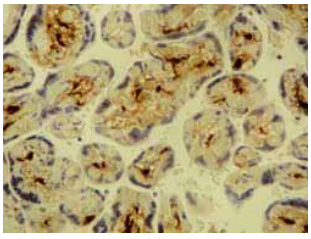
Formalin fixed paraffin embedded human placenta stained with Factor XIIIa, using ABC and AEC chromogen.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Factor XIIIa antibody [AC-1A1] (ab1834)

Factor XIIIa Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Factor XIIIa antibody

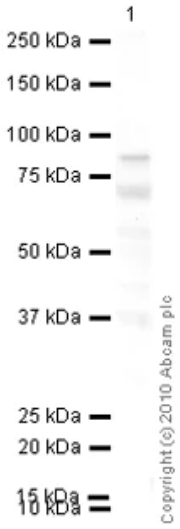
Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human placenta tissue, staining Factor XIIIa with ab1834.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Factor XIIIa antibody [AC-1A1] (ab1834)

Factor XIIIa Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Factor XIIIa antibody

ab1834 staining human placenta by IHC-P.



Western blot - Anti-Factor XIIIa antibody [AC-1A1] (ab1834)

Factor XIIIa Western blot staining of Human placenta tissue lysate - total protein using mouse Anti-Factor XIIIa antibody

All lanes:
Western blot - Anti-Factor XIIIa antibody [AC-1A1] (ab1834) at 1/250 dilution

All lanes:
Human placenta tissue lysate - total protein at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 83 kDa

Observed band size: 37 kDa, 74 kDa, 83 kDa

Exposure time: 2min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.