

Factor XIII A (A-4): sc-271122

BACKGROUND

Hemostasis following tissue injury involves the deployment of essential plasma procoagulants (Prothrombin, and Factors V, VIII, IX and X), which are involved in a blood coagulation cascade leading to the formation of insoluble fibrin clots and the promotion of platelet aggregation. Coagulation Factor VII (serum prothrombin conversion accelerator, proconvertin, F7, Factor VII) is a 406 amino acid, vitamin K-dependent, single chain serine protease that is synthesized in the liver and circulates as an inactive precursor. Factor IXa, Factor Xa, Factor XIIa, or Thrombin mediated proteolytic cleavage of Factor VII at Arg152-Ile153 generates Factor VIIa, an active serine protease composed of a catalytic heavy chain disulfide linked to a light chain, containing two EGF-like domains. Coagulation Factor XIII is a terminal effector in the blood coagulation cascade. Plasma Factor XIII is a heterotetramer composed of two A subunits and two B subunits. The A subunits have catalytic function, and the noncatalytic B subunits may serve as plasma carrier molecules.

REFERENCES

1. Davie, E.W. and Fujikawa, K. 1975. Basic mechanisms in blood coagulation. *Annu. Rev. Biochem.* 44: 799-829.
2. Hagen, F.S., et al. 1986. Characterization of a cDNA coding for human Factor VII. *Proc. Natl. Acad. Sci. USA* 83: 2412-2416.
3. O'Hara, P.J., et al. 1987. Nucleotide sequence of the gene coding for human Factor VII, a vitamin K-dependent protein participating in blood coagulation. *Proc. Natl. Acad. Sci. USA* 84: 5158-5162.
4. Davie, E.W., et al. 1991. The coagulation cascade: initiation, maintenance, and regulation. *Biochemistry* 30: 10363-10370.

CHROMOSOMAL LOCATION

Genetic locus: F13A1 (human) mapping to 6p25.1; F13a1 (mouse) mapping to 13 A3.3.

SOURCE

Factor XIII A (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 641-672 near the C-terminus of Factor XIII A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Factor XIII A (A-4) is available conjugated to agarose (sc-271122 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271122 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271122 PE), fluorescein (sc-271122 FITC), Alexa Fluor® 488 (sc-271122 AF488), Alexa Fluor® 546 (sc-271122 AF546), Alexa Fluor® 594 (sc-271122 AF594) or Alexa Fluor® 647 (sc-271122 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271122 AF680) or Alexa Fluor® 790 (sc-271122 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271122 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Factor XIII A (A-4) is recommended for detection of Factor XIII A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Factor XIII A siRNA (h): sc-72083, Factor XIII A siRNA (m): sc-72084, Factor XIII A shRNA Plasmid (h): sc-72083-SH, Factor XIII A shRNA Plasmid (m): sc-72084-SH, Factor XIII A shRNA (h) Lentiviral Particles: sc-72083-V and Factor XIII A shRNA (m) Lentiviral Particles: sc-72084-V.

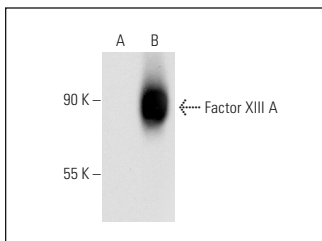
Molecular Weight of Factor XIII A: 160 kDa.

Positive Controls: Factor XIII A (h): 293T Lysate: sc-114126.

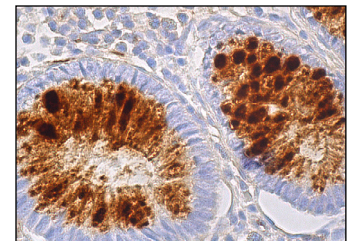
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Factor XIII A (A-4): sc-271122. Western blot analysis of Factor XIII A expression in non-transfected: sc-117752 (A) and human Factor XIII A transfected: sc-114126 (B) 293T whole cell lysates.



Factor XIII A (A-4): sc-271122. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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