

# Factor XIII A (B-8): sc-376312

## 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 IX A-, Factor X A-, Factor XII A- or Thrombin-mediated proteolytic cleavage of Factor VII at Arg 152-Ile 153 generates Factor VII A, 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., et al. 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.
5. Chambers, R.C., et al. 2000. Thrombin is a potent inducer of connective tissue growth factor production via proteolytic activation of protease-activated receptor-1. *J. Biol. Chem.* 275: 35584-35591.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 227500. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. LocusLink Report (LocusID: 2162). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

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

## SOURCE

Factor XIII A (B-8) is a mouse monoclonal antibody raised against amino acids 267-313 mapping within an internal region of Factor XIII A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

Factor XIII A (B-8) 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) 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.

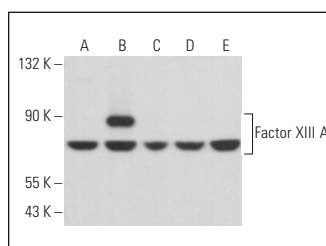
Molecular Weight of Factor XIII A: 160 kDa.

Positive Controls: Factor XIII A (h): 293T Lysate: sc-114126, U-251-MG whole cell lysate: sc-364176 or Neuro-2A whole cell lysate: sc-364185.

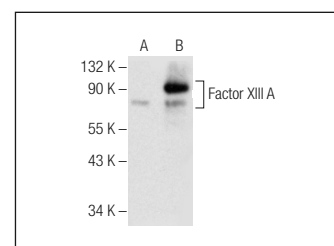
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



Factor XIII A (B-8): sc-376312. Western blot analysis of Factor XIII A expression in U-251-MG (A), JAR (B), SJRH30 (C), 3T3-L1 (D) and Neuro-2A (E) whole cell lysates.



Factor XIII A (B-8): sc-376312. 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.