SANTA CRUZ BIOTECHNOLOGY, INC.

Factor XIII A (H-47): sc-292288

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.
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 (H-47) is a rabbit polyclonal 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 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 (H-47) is recommended for detection of Factor XIII A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

Factor XIII A (H-47) is also recommended for detection of Factor XIII A in additional species, including equine, canine, bovine and porcine.

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.