

Factor X (AHX-5050): sc-81739

BACKGROUND

Hemostasis following tissue injury involves the deployment of essential plasma procoagulants (Prothrombin and Factors X, IX, V and VIII), which are involved in a blood coagulation cascade that leads to the formation of insoluble Fibrin clots and the promotion of platelet aggregation. Coagulation Factor X (Stuart Prower factor, FX, F10) is a vitamin K-dependent, single chain serine protease that is synthesized in the liver and circulates as an inactive precursor. The mature form of Factor X (Factor X A) is generated by Factor IX A- or Factor VII A-mediated cleavage at the tripeptide sequence, Arg-Lys-Arg, to yield a disulfide linked dimer. Together with the cofactor Factor V A and Ca²⁺ on the surface of platelets or endothelial cells, Factor X A coordinates as part of the prothrombinase complex, which mediates proteolysis of Prothrombin into active Thrombin. Mutations at the Factor X locus resulting in Factor X deficiencies can contribute to hemorrhagic diathesis.

REFERENCES

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2. Di Scipio, R.G., et al. 1977. A comparison of human Prothrombin, Factor IX (Christmas factor), Factor X (Stuart factor), and Protein S. *Biochemistry* 16: 698-706.
3. Davie, E.W., et al. 1991. The coagulation cascade: initiation, maintenance, and regulation. *Biochemistry* 30: 10363-10370.
4. Macedo-Ribeiro, S., et al. 1999. Crystal structures of the membrane-binding C2 domain of human coagulation Factor V. *Nature* 402: 434-439.
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6. Yang, Y.H., et al. 2006. Antibodies against the activated coagulation Factor X (FXA) in the antiphospholipid syndrome that interfere with the FXA inactivation by antithrombin. *J. Immunol.* 177: 8219-8225.
7. Todd, T., et al. 2006. Severe Factor X deficiency due to a homozygous mutation (Cys364-Arg) that disrupts a disulphide bond in the catalytic domain. *Haemophilia* 12: 621-624.
8. Ndonwi, M., et al. 2007. Substitution of the Gla domain in Factor X with that of Protein C impairs its interaction with Factor VII A/tissue factor: lack of comparable effect by similar substitution in Factor IX. *J. Biol. Chem.* 282: 15632-15644.
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STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: F10 (human) mapping to 13q34.

SOURCE

Factor X (AHX-5050) is a mouse monoclonal antibody raised against Factor X of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 5% glycerol. Also available azide-free for inhibition, sc-81739 L, 100 µg/0.1 ml.

APPLICATIONS

Factor X (AHX-5050) is recommended for detection of heavy chains of Factor X and Factor X A of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Factor X siRNA (h): sc-40405, Factor X shRNA Plasmid (h): sc-40405-SH and Factor X shRNA (h) Lentiviral Particles: sc-40405-V.

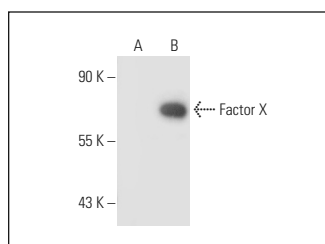
Molecular Weight of Factor X: 61 kDa.

Positive Controls: Factor X (h): 293T lysate: sc-116234.

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).

DATA



Factor X (AHX-5050): sc-81739. Western blot analysis of Factor X expression in non-transfected: sc-117752 (A) and human Factor X transfected: sc-116234 (B) 293T whole cell lysates.

RESEARCH USE

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