

Factor VII (CaFVII-22): sc-101369

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 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. Mutations at the F7 locus that lead to Factor VII deficiencies are generally asymptomatic or phenotypically uncharacterized, with hemorrhagic diathesis occurring at extremely low levels.

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.

CHROMOSOMAL LOCATION

Genetic locus: F7 (human) mapping to 13q34.

SOURCE

Factor VII (CaFVII-22) is a mouse monoclonal antibody raised against Factor VII of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Factor VII (CaFVII-22) is available conjugated to agarose (sc-101369 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101369 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101369 PE), fluorescein (sc-101369 FITC), Alexa Fluor[®] 488 (sc-101369 AF488), Alexa Fluor[®] 546 (sc-101369 AF546), Alexa Fluor[®] 594 (sc-101369 AF594) or Alexa Fluor[®] 647 (sc-101369 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-101369 AF680) or Alexa Fluor[®] 790 (sc-101369 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Factor VII (CaFVII-22) is recommended for detection of the Gla-domain of Factor VII of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

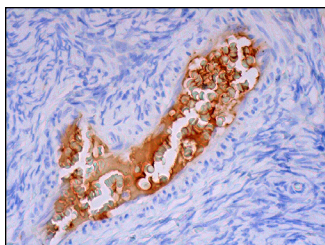
Suitable for use as control antibody for Factor VII siRNA (h): sc-40401, Factor VII shRNA Plasmid (h): sc-40401-SH and Factor VII shRNA (h) Lentiviral Particles: sc-40401-V.

Molecular Weight of Factor VII: 200/80/73/50/43 kDa.

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) 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. 3) 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 VII (CaFVII-22): sc-101369. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing staining of plasma in blood vessels.

SELECT PRODUCT CITATIONS

1. Gera, O., et al. 2018. Local regulation of thrombin activity by factor Xa in peripheral nerve Schwann cells. *Neuroscience* 371: 445-454.

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.