

Factor V (L-20): sc-16335

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 V (Factor V, FV, proaccelerin, labile factor) is a 2,196 amino acid, single chain glycoprotein that is cleaved by thrombin to yield an active, Ca²⁺ dependent dimer. This heterodimer is essential to the blood coagulation cascade. Together with catalytic Factor Xa and Ca²⁺ on the surface of platelets or endothelial cells, Factor Va coordinates in a prothrombinase complex, which mediates proteolysis of prothrombin into active thrombin. Due to both the procoagulant properties of Factor V in coordinating proteolytic activation of thrombin, and anticoagulant properties as a cofactor to activated protein C (APC), which selectively destroys FVa and FXa, alterations at the Factor V locus can contribute to hemorrhagic diathesis or thrombosis, respectively.

REFERENCES

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2. Kane, W.H. and Davie, E.W. 1986. Cloning of a cDNA coding for human Factor V, a blood coagulation Factor homologous to Factor VIII and ceruloplasmin. *Proc. Natl. Acad. Sci. USA* 83: 6800-6804.
3. Jenny, R.J., Pittman, D.D., Toole, J.J., Kriz, R.W., Aldape, R.A., Hewick, R.M., Kaufman, R.J. and Mann, K.G. 1987. Complete cDNA and derived amino acid sequence of human Factor V. *Proc. Natl. Acad. Sci. USA* 84: 4846-4850.
4. Davie, E.W., Fujikawa, K. and Kisiel, W. 1991. The coagulation cascade: initiation, maintenance and regulation. *Biochemistry* 30: 10363-10370.
5. Rand, M.D., Kalafatis, M. and Mann, K.G. 1994. Platelet coagulation Factor Va: the major secretory platelet phosphoprotein. *Blood* 83: 2180-2190.
6. Macedo-Ribeiro, S., Bode, W., Huber, R., Quinn-Allen, M.A., Kim, S.W., Ortel, T.L., Bourenkov, G.P., Bartunik, H.D., Stubbs, M.T., Kane, W.H. and Fuentes-Prior, P. 1999. Crystal structures of the membrane-binding C2 domain of human coagulation Factor V. *Nature* 402: 434-439.

CHROMOSOMAL LOCATION

Genetic locus: F5 (human) mapping to 1q24.2; F5 (mouse) mapping to 1 H2.2.

SOURCE

Factor V (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Factor V 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.

Blocking peptide available for competition studies, sc-16335 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Factor V (L-20) is recommended for detection of Factor V of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Factor V (L-20) is also recommended for detection of Factor V in additional species, including equine and canine.

Suitable for use as control antibody for Factor V siRNA (h): sc-40399, Factor V siRNA (m): sc-40400, Factor V shRNA Plasmid (h): sc-40399-SH, Factor V shRNA Plasmid (m): sc-40400-SH, Factor V shRNA (h) Lentiviral Particles: sc-40399-V and Factor V shRNA (m) Lentiviral Particles: sc-40400-V.

Molecular Weight of Factor V: 330 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kumar, A., Haque, J., Lacoste, J., Hiscott, J. and Williams, B.R. 1994. Double-stranded RNA-dependent protein kinase activates transcription factor NFκB by phosphorylating IκB. *Proc. Natl. Acad. Sci. USA* 91: 6288-6292.

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.

PROTOCOLS

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



Try **Factor V (6A5): sc-13512** or **Factor V (A-2): sc-390181**, our highly recommended monoclonal alternatives to Factor V (L-20).