SANTA CRUZ BIOTECHNOLOGY, INC.

Factor V (GMA-044): sc-65945

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, Ca^{2+}-dependent dimer, which is essential to the blood coagulation cascade. Together with catalytic Factor XA and Ca^{2+} 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

1. Davie, E.W. and Fujikawa, K. 1975. Basic mechanisms in blood coagulation. Annu. Rev. Biochem. 44: 799-829.
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., et al. 1987. Complete cDNA and derived amino acid sequence of human Factor V. Proc. Natl. Acad. Sci. USA 84: 4846-4850.
4. Davie, E.W., et al. 1991. The coagulation cascade: initiation, maintenance, and regulation. Biochemistry 30: 10363-10370.
5. Rand, M.D., et al. 1994. Platelet coagulation Factor VA: the major secretory platelet phosphoprotein. Blood 83: 2180-2190.
6. Macedo-Ribeiro, S., et al. 1999. Crystal structures of the membrane-binding C2 domain of human coagulation Factor V. Nature 402: 434-439.
7. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 227400. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

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

SOURCE

Factor V (GMA-044) is a mouse monoclonal antibody raised against Factor V of human origin, with epitope mapping to Factor V heavy chain.

PRODUCT

Each vial contains 100 µg IgG_1 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

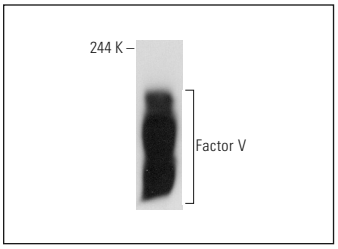
Factor V (GMA-044) is recommended for detection of Factor V of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

Molecular Weight of Factor V: 330 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human platelet extract: sc-363773.

DATA



Factor V (GMA-044): sc-65945. Western blot analysis of Factor V expression in human platelet extract.

RESEARCH USE

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

PROTOCOLS

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