SANTA CRUZ BIOTECHNOLOGY, INC.

Factor VIII (H-19): sc-27647

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Factor VIII is a glycoprotein cofactor that serves as a critical component in the blood coagulation pathway. Insufficient expression levels or expression of nonfunctional Factor VIII results in hemophilia A, a common severe hereditary bleeding disorder. In the liver, the main site of Factor VIII synthesis, the mature polypetide chain of 2332 amino acids is secreted into the lumen of the endoplasmic reticulum, where it interacts with various chaperone proteins, including calreticulin, calnexin and IgG-binding protein. From the lumen, a portion of Factor VIII translocates to the Golgi and undergoes activation via proteolysis of both the heavy and light chain portions of the protein into three fragments. Finally, proteolysis of activated Factor VIII by Factor Xa, protein C or thrombin results in inactivation of Factor VIII. Survival of Factor VIII in the bloodstream requires binding to von willebrand factor (VWF) at both the amino and carboxy termini of the light chain. Point mutations occuring in those binding domains as well as at other active sites of Factor VIII likely underly 90-95% of disease cases.

REFERENCES

1. Fulcher, C.A., et al. 1983. Thrombin proteolysis of purified factor VIII: correlation of activation with generation of a specific polypeptide. Blood 61: 807-811.
2. Eaton, D., et al. 1986. Proteolytic processing of human factor VIII: correlation of specific cleavages by thrombin, factor Xa, and activated protein C with activation and inactivation of factor VIII coagulant activity. Biochemistry 25: 505-512.
3. Foster, P.A., et al. 1989. Factor VIII structure and function. Blood Rev. 3: 180-191.

CHROMOSOMAL LOCATION

Genetic locus: F8 (human) mapping to Xq28; F8 (mouse) mapping to X A7.3.

SOURCE

Factor VIII (H-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Factor VIII 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-27647 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Factor VIII (H-19) is recommended for detection of precursor and mature heavy chain Factor VIII 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); non cross-reactive with light chain Factor VIII.

Factor VIII (H-19) is also recommended for detection of precursor and mature heavy chain Factor VIII in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Factor VIII siRNA (h): sc-43756, Factor VIII siRNA (m): sc-44757, Factor VIII shRNA Plasmid (h): sc-43756-SH, Factor VIII shRNA Plasmid (m): sc-44757-SH, Factor VIII shRNA (h) Lentiviral Particles: sc-43756-V and Factor VIII shRNA (m) Lentiviral Particles: sc-44757-V.

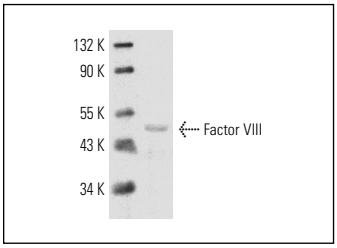
Molecular Weight of Factor VIII heavy chain: 200 kDa.

Molecular Weight of Factor VIII light chain: 80 kDa.

Molecular Weight of Factor VIIIa cleaved fragments: 50/43/73 kDa.

Positive Controls: human liver extract: sc-363766, rat liver extract: sc-2395 or mouse kidney extract: sc-2255.

DATA



Factor VIII (H-19): sc-27647. Western blot analysis of Factor VIII expression in mouse kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Sugita, C., et al. 2009. Factor VIII contributes to platelet-fibrin thrombus formation via thrombin generation under low shear conditions. Thromb. Res. 124: 601-607.
2. Uysal, C.A., et al. 2010. Effect of mesenchymal stem cells on skin graft to flap prefabrication: an experimental study. Ann. Plast. Surg. 65: 237-244.
3. Banon-Maneus, E., et al. 2014. Wnt pathway activation in long term remnant rat model. Biomed Res. Int. 2014: 324713.