

# Factor IX (B-3): sc-377187

## 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 IX (plasma thromboplastic component, F9, F.IX, HEMB) is a vitamin K-dependent, single chain serine protease that is synthesized in the liver and circulates as an inactive precursor. Factor XIa mediated proteolytic cleavage of Factor IX generates factor IXa, an active serine protease composed of a 145 amino acid light chain and a 236 amino acid catalytic heavy chain, linked through disulfide bonds. Genetic alterations at the Factor IX locus such as point mutations, insertions and deletions, can lead to hemophilia B, also known as Christmas disease.

## REFERENCES

1. Davie, E.W. and Fujikawa, K. 1975. Basic mechanisms in blood coagulation. *Annu. Rev. Biochem.* 44: 799-829.
2. Kurachi, K. and Davie, E.W. 1982. Isolation and characterization of a cDNA coding for human Factor IX. *Proc. Natl. Acad. Sci. USA* 79: 6461-6464.
3. Jaye, M., et al. 1983. Isolation of a human anti-haemophilic Factor IX cDNA clone using a unique 52-base synthetic oligonucleotide probe deduced from the amino acid sequence of bovine Factor IX. *Nucleic Acids Res.* 11: 2325-2335.

## CHROMOSOMAL LOCATION

Genetic locus: F9 (human) mapping to Xq27.1; F9 (mouse) mapping to X A6.

## SOURCE

Factor IX (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 301-339 within an internal region of Factor IX of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Factor IX (B-3) is available conjugated to agarose (sc-377187 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377187 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377187 PE), fluorescein (sc-377187 FITC), Alexa Fluor® 488 (sc-377187 AF488), Alexa Fluor® 546 (sc-377187 AF546), Alexa Fluor® 594 (sc-377187 AF594) or Alexa Fluor® 647 (sc-377187 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377187 AF680) or Alexa Fluor® 790 (sc-377187 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377187 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

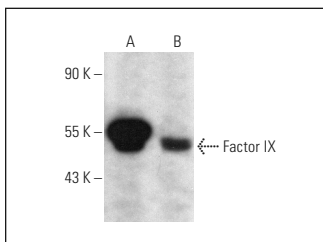
Factor IX (B-3) is recommended for detection of Factor IX of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Factor IX siRNA (h): sc-40403, Factor IX siRNA (m): sc-40404, Factor IX shRNA Plasmid (h): sc-40403-SH, Factor IX shRNA Plasmid (m): sc-40404-SH, Factor IX shRNA (h) Lentiviral Particles: sc-40403-V and Factor IX shRNA (m) Lentiviral Particles: sc-40404-V.

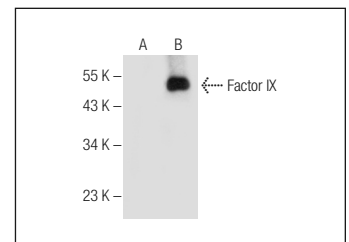
Molecular Weight of Factor IX: 59 kDa.

Positive Controls: L8 cell lysate: sc-3807, C6 whole cell lysate: sc-364373 or human Factor IX transfected 293T whole cell lysate.

## DATA



Factor IX (B-3): sc-377187. Western blot analysis of Factor IX expression in L8 (A) and C6 (B) whole cell lysates.



Factor IX (B-3): sc-377187. Western blot analysis of Factor IX expression in non-transfected (A) and human Factor IX transfected (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Yu, O.M., et al. 2018. YAP and MRTF-A, transcriptional co-activators of RhoA-mediated gene expression, are critical for glioblastoma tumorigenicity. *Oncogene* 37: 5492-5507.
2. Odaira, K., et al. 2019. Apparent synonymous mutation F9 c.87A>G causes secretion failure by in-frame mutation with aberrant splicing. *Thromb. Res.* 179: 95-103.
3. Shatoor, A.S., et al. 2020. The hypocoagulant effect of *Crataegus aronia* in rats entails vitamin K-dependent and vitamin K-independent effects. *J. Food Biochem.* 44: e13094.
4. Satti, H.H., et al. 2020. Subacute administration of astaxanthin inhibits vitamin K-dependent clotting factors in rats. *J. Food Biochem.* E-published.
5. Odaira, K., et al. 2022. F9 mRNA splicing aberration due to a deep Intronic structural variation in a patient with moderate hemophilia B. *Thromb. Res.* 213: 91-96.

## RESEARCH USE

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

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