SANTA CRUZ BIOTECHNOLOGY, INC.

Factor H (L20/3): sc-47686

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Factor H gene family is a multidomain, multifunctional protein family whose individual members are defined by conserved structural elements, which display diverse yet often overlapping functions. These proteins share a common structural motif, the short consensus repeat (SCR), which is structurally conserved among related genes and between phylogenetically divergent species. The human complement Factor H (FH, CFH, HUS, β-1H) gene encodes a 1,213 amino acid serum glycoprotein which is arranged into 20 SCRs, each comprising approximately 60 amino acids and an 18-residue leader sequence. Factor H controls the function of the alternative complement pathway and acts as a cofactor with Factor I (C3b inactivator). In addition, Factor H has functional activity outside of the complement system, where it can bind to the cellular integrin receptor (CD11b/CD18), interact with cell surface glycosaminoglycans and associate with the surface of certain pathogenic microorganisms. Deficiency in Factor H is a common characteristic of acute renal disease.

REFERENCES

1. Sim, E. et al. 1983. Monoclonal antibodies against the complement control protein Factor H (β 1 H). Biosci. Rep. 3: 1119-1131.
2. Ripoche, J., et al. 1988. The complete amino acid sequence of human complement Factor H. Biochem. J. 249: 593-602.

CHROMOSOMAL LOCATION

Genetic locus: CFH (human) mapping to 1q31.3.

SOURCE

Factor H (L20/3) is a mouse monoclonal antibody raised against complement protein Factor H purified from human serum.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Factor H (L20/3) is recommended for detection of Factor H of 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Factor H siRNA (h): sc-42877, Factor H shRNA Plasmid (h): sc-42877-SH and Factor H shRNA (h) Lentiviral Particles: sc-42877-V.

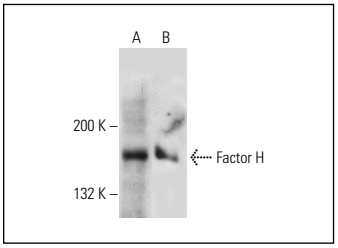
Molecular Weight of Factor H: 150 kDa.

Positive Controls: human PBL whole cell lysate or human plasma extract: sc-364374.

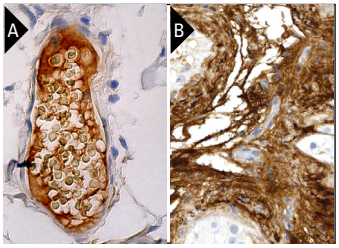
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) 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 H (L20/3): sc-47686. Western blot analysis of Factor H expression in human PBL whole cell lysate (**A**) and human recombinant Factor H (**B**).



Factor H (L20/3): sc-47686. Immunoperoxidase staining of formalin fixed, paraffin-embedded human blood vessel showing plasma staining (**A**) and human testis tissue showing cytoplasmic and membrane staining of Leydig cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Shao, C., et al. 2009. Shotgun proteomic analysis of hibernating arctic ground squirrels. Mol. Cell. Proteomics 9: 313-326.
2. Scambi, C., et al. 2010. Comparative proteomic analysis of serum from patients with systemic sclerosis and sclerodermatous GVHD. Evidence of defective function of Factor H. PLoS ONE 5: e12162.
3. Blanc, C., et al. 2012. Overall neutralization of complement Factor H by autoantibodies in the acute phase of the autoimmune form of atypical hemolytic uremic syndrome. J. Immunol. 189: 3528-3537.
4. Smolag, K.I., et al. 2020. Complement inhibitor factor H expressed by breast cancer cells differentiates $CD14^+$ human monocytes into immunosuppressive macrophages. Oncoimmunology 9: 1731135.

STORAGE

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

CONJUGATES

See **Factor H (C18/3): sc-47685** for Factor H antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.