

Factor B (F-7): sc-271636

BACKGROUND

The complement component proteins, C3, C4 and C5, are potent anaphylatoxins that are released during complement activation. Binding of these proteins to their respective G protein-coupled receptors, C3aR, C1r and C5aR, induces proinflammatory events, such as cellular degranulation, smooth muscle contraction, arachidonic acid metabolism, cytokine release, leukocyte activation and cellular chemotaxis. Complement Factor B, also designated Properdin Factor B or PBF2, is part of the alternate pathway of the complement system and is cleaved by Factor D into two fragments: Ba and Bb. Bb combines with complement Factor 3b to produce the C3 or C5 convertase and plays a role in the differentiation and proliferation of preactivated B lymphocytes, lysis of erythrocytes, stimulation of lymphocyte blastogenesis and rapid spreading of peripheral blood monocytes. Ba is important in inhibiting the proliferation of preactivated B lymphocytes. Adipsin, also designated complement Factor D, is a serine protease that cleaves complement Factor B and may be involved in obesity. Factor H controls the function of the alternative complement pathway. FHR-1 (complement Factor H related protein-1) may play a role in lipid metabolism.

REFERENCES

1. Woods, D.E., et al. 1982. Isolation of cDNA clones for the human complement protein Factor B, a class III major histocompatibility complex gene product. *Proc. Natl. Acad. Sci. USA* 79: 5661-5665.
2. Campbell, R.D., et al. 1983. Molecular cloning and characterization of the gene coding for human complement protein Factor B. *Proc. Natl. Acad. Sci. USA* 80: 4464-4468.
3. Mole, J.E., et al. 1984. Complete primary structure for the zymogen of human complement Factor B. *J. Biol. Chem.* 259: 3407-3412.

CHROMOSOMAL LOCATION

Genetic locus: CFB (human) mapping to 6p21.33.

SOURCE

Factor B (F-7) is a mouse monoclonal antibody raised against amino acids 426-520 mapping within an internal region of Factor B of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Factor B (F-7) is available conjugated to agarose (sc-271636 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271636 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271636 PE), fluorescein (sc-271636 FITC), Alexa Fluor® 488 (sc-271636 AF488), Alexa Fluor® 546 (sc-271636 AF546), Alexa Fluor® 594 (sc-271636 AF594) or Alexa Fluor® 647 (sc-271636 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271636 AF680) or Alexa Fluor® 790 (sc-271636 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

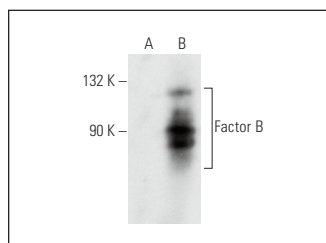
Factor B (F-7) is recommended for detection of Complement Factor B Bb Fragment of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 B siRNA (h): sc-44510, Factor B shRNA Plasmid (h): sc-44510-SH and Factor B shRNA (h) Lentiviral Particles: sc-44510-V.

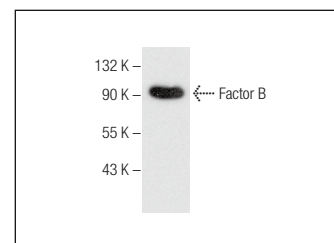
Molecular Weight of Factor B: 100 kDa.

Positive Controls: Factor B (h): 293 Lysate: sc-159858, human plasma extract: sc-364374 or HeLa whole cell lysate: sc-2200.

DATA



Factor B (F-7): sc-271636. Western blot analysis of Factor B expression in non-transfected: sc-110760 (A) and human Factor B transfected: sc-159858 (B) 293 whole cell lysates.



Factor B (F-7): sc-271636. Western blot analysis of Factor B in human plasma.

SELECT PRODUCT CITATIONS

1. Chung, E.J., et al. 2017. AICAR suppresses TNF-α-induced complement factor B in RPE cells. *Sci. Rep.* 7: 17651.
2. Pisarenka, S., et al. 2022. Modeling C3 glomerulopathies: C3 convertase regulation on an extracellular matrix surface. *Front. Immunol.* 13: 1073802.
3. He, C., et al. 2024. Complement Factor B (CFB) inhibits the malignant progression of lung adenocarcinoma by downregulating the Ras/MAPK signaling pathway. *Arch. Biochem. Biophys.* 760: 110130.

STORAGE

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

PROTOCOLS

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

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