SANTA CRUZ BIOTECHNOLOGY, INC.

Factor B (D22/3): sc-47681

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, C3αR, C1R and C5αR, 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.
4. Wu, L.C., et al. 1987. Cell-specific expression of the human complement protein Factor B gene: evidence for the role of two distinct 5'-flanking elements. Cell 48: 331-342.

CHROMOSOMAL LOCATION

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

SOURCE

Factor B (D22/3) is a mouse monoclonal antibody raised against complement protein Factor B of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Factor B (D22/3) is available conjugated to agarose (sc-47681 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-47681 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47681 PE), fluorescein (sc-47681 FITC), Alexa Fluor® 488 (sc-47681 AF488), Alexa Fluor® 546 (sc-47681 AF546), Alexa Fluor® 594 (sc-47681 AF594) or Alexa Fluor® 647 (sc-47681 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47681 AF680) or Alexa Fluor® 790 (sc-47681 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Factor B (D22/3) is recommended for detection of complement Factor B Ba 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

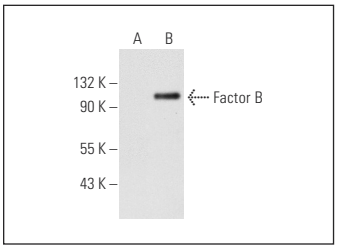
Molecular Weight of Factor B: 100 kDa.

Positive Controls: human plasma extract: sc-364374, Factor B (h2): 293T Lysate: sc-170756 or HeLa whole cell lysate: sc-2200.

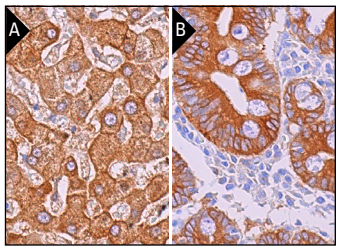
RECOMMENDED SUPPORT REAGENTS

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 B (D22/3): sc-47681. Western blot analysis of Factor B expression in non-transfected: sc-117752 (**A**) and human Factor B transfected: sc-170756 (**B**) 293T whole cell lysates.



Factor B (D22/3): sc-47681. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and membrane staining of hepatocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

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.