



C4BP (M-20): sc-17214

BACKGROUND

Complement component 4-binding protein (C4BP) is a plasma glycoprotein that inhibits the classical pathway of complement activation, which is mediated through antibody targeting of foreign antigen. Structurally, C4BP is a disulfide linked, multimeric protein that is composed of seven α chains and one β chain. C4BP functions as a cofactor for C3 β inactivator in the cleavage of C3 β , and accelerates the decay of C4 β C2 α (C3 convertase) by acting as a cofactor in the cleavage of C4 β by factor I. Streptococcal strains that express Ig-binding cell surface molecules, which are members of the M protein family, can bind to overlapping C4 β binding sites in C4BP and therefore, interfere with the classical pathway of complement activation. Bacteria-bound C4BP may be an evolved mechanism that downregulates complement activation in the bacterial host microenvironment, thereby reducing the occurrences of bacterial opsonization and phagocytosis.

REFERENCES

1. Scharfstein, J., et al. 1978. Human C4-binding protein. I. Isolation and characterization. *J. Exp. Med.* 148: 207-222.
2. Chung, L.P., et al. 1985. Molecular cloning and characterization of the cDNA coding for C4 β -binding protein, a regulatory protein of the classical pathway of the human complement system. *Biochem. J.* 230: 133-141.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 120830. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Blom, A.M., et al. 2000. Positively charged amino acids at the interface between α chain CCP1 and CCP2 of C4BP are required for regulation of the classical C3-convertase. *Mol. Immunol.* 37: 445-453.
5. Blom, A.M., et al. 2000. Human C4 β -binding protein has overlapping, but not identical, binding sites for C4 β and streptococcal M proteins. *J. Immunol.* 164: 5328-5336.
6. Blom, A.M., et al. 1999. A cluster of positively charged amino acids in the C4BP α chain is crucial for C4 β binding and factor I cofactor function. *J. Biol. Chem.* 274: 19237-19245.

CHROMOSOMAL LOCATION

Genetic locus: C4BPA (human) mapping to 1q32; C4bp (mouse) mapping to 1 E4.

SOURCE

C4BP (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of C4BP of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17214 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C4BP (M-20) is recommended for detection of C4BP of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 C4BP siRNA (m): sc-42740; and as shRNA Plasmid control antibody for C4BP shRNA Plasmid (m): sc-42740-SH.

Molecular Weight of C4BP: 70 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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