C3 (B-9): sc-28294

BACKGROUND

Complement C3 precursor contains complement C3 β chain, complement C3 α chain, C3a anaphylatoxin, complement C3b β chain, complement C3c fragment, complement C3βγ fragment, complement C3γ fragment, complement C3b fragment and complement C3f fragment. C3a, C4a, and C5a are potent anaphylatoxins that are released during complement activation, a system of ligand-surface protein interactions specific to cells of hematopoietic lineage that aids in the elimination of pathogens. C3a and C5a secretion correlates with pathophysiological phenotypes such as asthma and bacterial meningitis. Binding of these proteins to their respective G protein-coupled receptors (C3aR, C5aR), which are present on the surface of myeloid leukocytes, induces proinflammatory events such as cellular degranulation, smooth muscle contraction, arachidonic acid metabolism, cytokine release, leukocyte activation and cellular chemotaxis. C3aR is expressed in brain and activated B-lymphocytes whereas C5aR is prevalent on the surface of hepatocyte, lung, smooth muscle and endothelial cells. Upon activation, C3aR and C5aR are susceptible to rapid GRK-mediated phosphorylation and clathrin-coated vesicle targeting. C5aR utilizes the Ras-Raf-ERK1/2 cascade and couples to G11 proteins.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: C3 (human) mapping to 19p13.3; C3 (mouse) mapping to 17 D.

SOURCE

C3 (B-9) is a mouse monoclonal antibody raised against amino acids 541-840 of C3 precursor of human origin.

PRODUCT

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

C3 (B-9) is available conjugated to agarose (sc-28294 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28294 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28294 PE), fluorescein (sc-28294 FITC), Alexa Fluor® 488 (sc-28294 AF488), Alexa Fluor® 546 (sc-28294 AF546), Alexa Fluor® 594 (sc-28294 AF594) or Alexa Fluor® 647 (sc-28294 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28294 AF680) or Alexa Fluor® 790 (sc-28294 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

C3 (B-9) is recommended for detection of C3 precursor, C3a anaphylatoxin, C3c chain, C3b chain and C3b ε’ chain of mouse, rat and 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 1:50-1:1500), immunohistochemistry (including paraffin-embedded sections) (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 C3 siRNA (h): sc-37068, C3 siRNA (m): sc-37069, C3 shRNA Plasmid (h): sc-37068-SH, C3 shRNA Plasmid (m): sc-37069-SH, C3 shRNA (h) Lentiviral Particles: sc-37068-V and C3 shRNA (m) Lentiviral Particles: sc-37069-V.

Molecular Weight of C3: 180 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HL-60 whole cell lysate: sc-2209 or human liver extract: sc-36376.

DATA

C3 (B-9): sc-28294. Western blot analysis of C3 expression in Hep G2 (A) and HL-60 (B) whole cell lysates and human liver tissue extract (C).

SELECT PRODUCTION CITATIONS


RESEARCH USE

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

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