C3 (B-9): sc-28294

**BACKGROUND**

Complement C3 precursor contains complement C3 \( \beta \) chain, complement C3 \( \alpha \) chain, C3a anaphylatoxin, complement C3b \( \alpha \) chain, complement C3c fragment, complement C3d\( \beta \) fragment, complement C3y fragment, complement C3\( \bar{\beta} \) 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 \( G_{\alpha} \) 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 of 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 phycocerythrin (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.

**STORAGE**

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

**APPLICATIONS**

C3 (B-9) is recommended for detection of C3 precursor, C3 anaphylatoxin, C3 \( \alpha \) chain, C3 \( \beta \) chain and C3b \( \alpha \) 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 1:50-1:1500) 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-37068-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, HeLa whole cell lysate: sc-2200 or human liver extract: sc-363766.

**DATA**

C3 (B-9) Alexa Fluor® 680: sc-28294 AF680. Direct near-infrared western blot analysis of C3 expression in Hep G2 (A) and HeLa (B) whole cell lysates and human liver tissue extract (C). Blocked with UltraCruz® Blocking Reagent: sc-516214.

C3 (B-9): sc-28294. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse spleen tissue showing cytoplasmic localization (B).

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

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