

C5a/α (L-14): sc-21941

BACKGROUND

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. Complement C5 precursor contains C5a anaphylatoxin. 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. C5aR utilizes the Ras-Raf-ERK 1/2 cascade, couples to G_i/G₁₆ proteins, and 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. The C5 precursor is first processed by the removal of four basic residues, forming two chains, α and β, linked by a disulfide bond. C5 convertase activates C5 by cleaving the α chain, releasing C5α anaphylatoxin and generating C5β.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Hc (mouse) mapping to 2 B.

SOURCE

C5a/α (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of C5 of mouse origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-21941 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

C5a/α (L-14) is recommended for detection of C5 precursor, C5a anaphylatoxin and C5α chain of mouse 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 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C5 siRNA (h): sc-42848, C5 shRNA Plasmid (h): sc-42848-SH and C5 shRNA (h) Lentiviral Particles: sc-42848-V.

Molecular Weight of C5 precursor: 188 kDa.

Molecular Weight of C5α: 125 kDa.

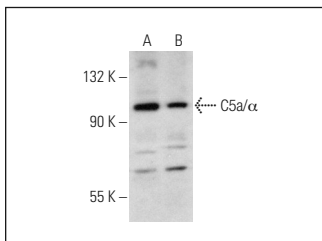
Molecular Weight of C5a precursor: 9 kDa.

Positive Controls: MM-142 cell lysate: sc-2246 or NFS-5 C-1 whole cell lysate.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



C5a/α (L-14): sc-21941. Western blot analysis of C5a/α expression in MM-142 (A) and NFS-5 C-1 (B) whole cell lysates.

STORAGE

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