

## C5 (557): sc-52635

### BACKGROUND

C3 $\alpha$ , C4 $\alpha$  and C5 $\alpha$  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 C5 $\alpha$  anaphylatoxin. C3 $\alpha$  and C5 $\alpha$  secretion correlates with pathophysiological phenotypes such as asthma and bacterial meningitis. Binding of these proteins to their respective G protein-coupled receptors (C3 $\alpha$ R, C5 $\alpha$ R), 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. C5 $\alpha$ R utilizes the Ras-Raf-ERK1/2 cascade, couples to G $\gamma$ /G $\beta$  proteins, and is prevalent on the surface of hepatocyte, lung, smooth muscle and endothelial cells. Upon activation, C3 $\alpha$ R and C5 $\alpha$ R 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,  $\alpha$  and  $\beta$ , linked by a disulfide bond. C5 convertase activates C5 by cleaving the  $\alpha$  chain, releasing C5 $\alpha$  anaphylatoxin and generating C5 $\beta$ .

### REFERENCES

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6. Humbles, A.A., Lu, B., Nilsson, C.A., Lilly, C., Israel, E., Fujiwara, Y., Gerard, N.P. and Gerard, C. 2000. A role for the C3a anaphylatoxin receptor in the effector phase of asthma. *Nature* 406: 998-1001.

### CHROMOSOMAL LOCATION

Genetic locus: C5 (human) mapping to 9q33.2.

### SOURCE

C5 (557) is a mouse monoclonal antibody raised against C5 of human origin.

### PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATION

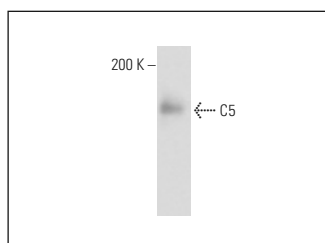
C5 (557) is recommended for detection of an epitope on C5 and C5a of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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: 190 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

### DATA



C5 (557): sc-52635. Western blot analysis of C5 expression in Hep G2 whole cell lysate.

### 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](http://www.scbt.com) for detailed protocols and support products.