

C3aR (H-300): sc-20138

BACKGROUND

Complement C3 precursor contains complement C3 β chain, complement C3 α chain, C3a anaphylatoxin, complement C3b α chain, complement C3c fragment, complement C3d γ fragment, complement C3g fragment, complement C3d 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-ERK 1/2 cascade and couples to G α /G16 proteins.

CHROMOSOMAL LOCATION

Genetic locus: C3AR1 (human) mapping to 12p13.31; C3ar1 (mouse) mapping to 6 F2.

SOURCE

C3aR (H-300) is a rabbit polyclonal antibody raised against amino acids 183-482 mapping at the C-terminus of C3aR of human origin.

PRODUCT

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

APPLICATIONS

C3aR (H-300) is recommended for detection of C3a receptor of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 C3aR siRNA (h): sc-42840, C3aR siRNA (m): sc-42841, C3aR shRNA Plasmid (h): sc-42840-SH, C3aR shRNA Plasmid (m): sc-42841-SH, C3aR shRNA (h) Lentiviral Particles: sc-42840-V and C3aR shRNA (m) Lentiviral Particles: sc-42841-V.

Molecular Weight of C3aR: 65 kDa.

Positive Controls: C3aR (m): 293T Lysate: sc-118915, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

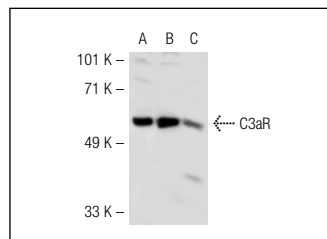
RESEARCH USE

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

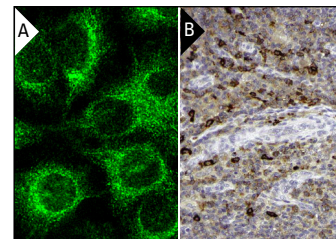
STORAGE

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

DATA



C3aR (H-300): sc-20138. Western blot analysis of C3aR expression in non-transfected 293T: sc-117752 (A), mouse C3aR transfected 293T: sc-118915 (B) and HeLa (C) whole cell lysates.



C3aR (H-300): sc-20138. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A) and immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of non-follicle cells (B).

SELECT PRODUCT CITATIONS

- Cecic, I., et al. 2005. Characteristics of complement activation in mice bearing Lewis lung carcinomas treated by photodynamic therapy. *Cancer Lett.* 225: 215-223.
- Cecic, I., et al. 2006. Role of complement anaphylatoxin C3a in photodynamic therapy-elicited engagement of host neutrophils and other immune cells. *Photochem. Photobiol.* 82: 558-562.
- Ignatius, A., et al. 2011. Complement C3a and C5a modulate osteoclast formation and inflammatory response of osteoblasts in synergism with IL-1 β . *J. Cell. Biochem.* 112: 2594-2605.
- Lara-Astiaso, D., et al. 2012. Complement anaphylatoxins C3a and C5a induce a failing regenerative program in cardiac resident cells. Evidence of a role for cardiac resident stem cells other than cardiomyocyte renewal. *Springerplus* 1: 63.

PROTOCOLS

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Try **C3aR (D-12): sc-133172** or **C3aR (17): sc-53782**, our highly recommended monoclonal alternatives to C3aR (H-300).