SANTA CRUZ BIOTECHNOLOGY, INC.

C3 (11H9): sc-58926

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Complement C3 precursor contains complement C3 β chain, complement C3 α chain, C3a anaphylatoxin, complement C3b α chain, complement C3c fragment, complement C3dg 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-ERK1/2 cascade and couples to G_i/G_{16} proteins.

CHROMOSOMAL LOCATION

Genetic locus: C3 (mouse) mapping to 17 D.

SOURCE

C3 (11H9) is a rat monoclonal antibody raised against cell-bound C3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

C3 (11H9) is available conjugated to agarose (sc-58926 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-58926 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58926 PE), fluorescein (sc-58926 FITC), Alexa Fluor® 488 (sc-58926 AF488), Alexa Fluor® 546 (sc-58926 AF546), Alexa Fluor® 594 (sc-58926 AF594) or Alexa Fluor® 647 (sc-58926 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-58926 AF680) or Alexa Fluor® 790 (sc-58926 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

C3 (11H9) is recommended for detection of C3 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 flow cytometry (1 µg per 1 x 10^6 cells); may cross-react with C3b and iC3b.

Suitable for use as control antibody for C3 siRNA (m): sc-37069, C3 shRNA Plasmid (m): sc-37069-SH and C3 shRNA (m) Lentiviral Particles: sc-37069-V.

Molecular Weight of C3: 180 kDa.

Positive Controls: mouse uterus extract: sc-364254.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Fischer, A.J., et al. 2009. Differential gene expression in human conducting airway surface epithelia and submucosal glands. Am. J. Respir. Cell Mol. Biol. 40: 189-199.
2. Pamuk, O.N., et al. 2010. Spleen tyrosine kinase inhibition prevents tissue damage after ischemia-reperfusion. Am. J. Physiol. Gastrointest. Liver Physiol. 299: G391-G399.
3. O'Hurley, G., et al. 2010. Evaluation of zinc-α-2-glycoprotein and proteasome subunit β-type 6 expression in prostate cancer using tissue microarray technology. Appl. Immunohistochem. Mol. Morphol. 18: 512-517.
4. Königsberger, S., et al. 2012. Altered Bcr signalling quality predisposes to autoimmune disease and a pre-diabetic state. EMBO J. 31: 3363-3374.
5. Harris, J.V., et al. 2012. Sequential *Plasmodium chabaudi* and *Plasmodium berghei* infections provide a novel model of severe malarial anemia. Infect. Immun. 80: 2997-3007.
6. Honjo, K., et al. 2014. Enhanced auto-antibody production and Mott cell formation in FcμR-deficient autoimmune mice. Int. Immunol. 26: 659-672.
7. Tsai, I.J., et al. 2015. Inhibition of Rho-associated kinase relieves C5a-induced proteinuria in murine nephrotic syndrome. Cell. Mol. Life Sci. 72: 3157-3171.
8. Nie, F., et al. 2015. A preliminary study on the role of the complement regulatory protein, cluster of differentiation 55, in mice with diabetic neuropathic pain. Mol. Med. Rep. 11: 2076-2082.
9. García-Domínguez, I., et al. 2018. Peripheral inflammation enhances microglia response and nigral dopaminergic cell death in an *in vivo* MPTP model of Parkinson's disease. Front. Cell. Neurosci. 12: 398.
10. Ju, J., et al. 2019. A variant of the histone-binding protein sNASP contributes to mouse lupus. Front. Immunol. 10: 637.
11. Chen, D., et al. 2020. The lipid elongation enzyme ELOVL2 is a molecular regulator of aging in the retina. Aging Cell 19: e13100.
12. Takahata, A., et al. 2020. Crucial role of AIM/CD5L in the development of glomerular inflammation in IgA nephropathy. J. Am. Soc. Nephrol. 31: 2013-2024.
13. Xu, X., et al. 2021. Microglial TREM2 mitigates inflammatory responses and neuronal apoptosis in Angiotensin II-induced hypertension in middle-aged mice. Front. Aging Neurosci. 13: 716917.
14. Zhang, J., et al. 2021. A variant of sNASP exacerbates lymphocyte subset disorder and nephritis in a spontaneous lupus model Sle1.Yaa mouse. Mediators Inflamm. 2021: 8175863.

RESEARCH USE

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