SANTA CRUZ BIOTECHNOLOGY, INC.

CD88 (R63): sc-53797

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD88, also known as C5a receptor (C5aR), is a G protein-coupled integral membrane protein. CD88, which is expressed on neutrophils, monocytes, macrophages, hepatocytes and mast cells, as well as on various epithelial and endothelial cells, serves as a receptor for the inflammatory peptide C5a. Research studies suggest a role for CD88 in the inflammatory response. The binding of C5a to CD88 has been shown to elicit increased production of acute phase proteins in liver. In brain, an increased production of CD88 has been shown to be associated with inflammation. Research also indicates a role for C5a/C5aR in the pathogenesis of rheumatoid arthritis, as well as a heightened responsiveness of human bronchial epithelial cells (HBECs) to C5a upon exposure of these cells to cigarette smoke and other environmental irritants.

CHROMOSOMAL LOCATION

Genetic locus: C5AR1 (human) mapping to 19q13.32; C5ar1 (mouse) mapping to 7 A2.

SOURCE

CD88 (R63) is a mouse monoclonal antibody raised against CD88 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD88 (R63) is available conjugated to agarose (sc-53797 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53797 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53797 PE), fluorescein (sc-53797 FITC), Alexa Fluor® 488 (sc-53797 AF488), Alexa Fluor® 546 (sc-53797 AF546), Alexa Fluor® 594 (sc-53797 AF594) or Alexa Fluor® 647 (sc-53797 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53797 AF680) or Alexa Fluor® 790 (sc-53797 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

CD88 (R63) is recommended for detection of CD88 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 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD88 siRNA (h): sc-35031, CD88 siRNA (m): sc-42814, CD88 shRNA Plasmid (h): sc-35031-SH, CD88 shRNA Plasmid (m): sc-42814-SH, CD88 shRNA (h) Lentiviral Particles: sc-35031-V and CD88 shRNA (m) Lentiviral Particles: sc-42814-V.

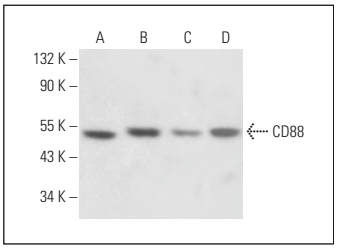
Molecular Weight of CD88: 49 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or Jurkat whole cell lysate: sc-2204.

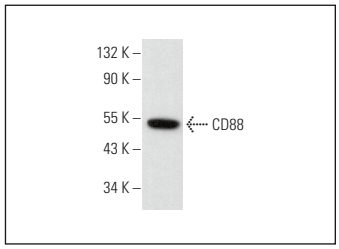
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CD88 (R63): sc-53797. Western blot analysis of CD88 expression in Jurkat (**A**), RAW 264.7 (**B**), EOC 20 (**C**) and NIH/3T3 (**D**) whole cell lysates.



CD88 (R63): sc-53797. Western blot analysis of CD88 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lim, R. and Lappas, M. 2012. Decreased expression of complement 3a receptor (C3aR) in human placentas from severe preeclamptic pregnancies. Eur. J. Obstet. Gynecol. Reprod. Biol. 165: 194-198.
2. Gillman, A.N., et al. 2017. Epidermal growth factor receptor signaling enhances the proinflammatory effects of *Staphylococcus aureus* γ-toxin on the mucosa. Toxins 9: 202.
3. Yu, S., et al. 2019. The complement receptor C5aR2 promotes protein kinase R expression and contributes to NLRP3 inflammasome activation and HMGB1 release from macrophages. J. Biol. Chem. 294: 8384-8394.
4. Wen, Y., et al. 2021. Role of C5a and C5aR in doxorubicin-induced cardiomyocyte senescence. Exp. Ther. Med. 22: 1114.
5. Tang, X., et al. 2022. Phospholipase A_2 induces acute kidney injury by complement mediated mitochondrial apoptosis via TNF-α/NFκB signaling pathway. Food Chem. Toxicol. 172: 113591.
6. Okada, A., et al. 2024. C5a-C5AR1 axis as a potential trigger of the rupture of intracranial aneurysms. Sci. Rep. 14: 3105.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.