SANTA CRUZ BIOTECHNOLOGY, INC.

CD64 (C-6): sc-515431

BACKGROUND

Three different classes of IgG Fc receptors have been described: FcγRI (CD64), FcγRII (CD32) and FcγRIII (CD16). The low affinity receptors, CD64 and CD16, have a putative role in mediating humoral immune responses. CD64 is a surface glycoprotein with high affinity for monomeric IgG, is expressed constitutively on monocytes and macrophages, and can be induced in neutrophils subsequent to IFN-γ stimulation. CD64 plays a putative role in the initiation of cell-mediated cytotoxicity. Thus far, three genes encoding four distinct CD64 transcripts have been described. CD64 has been shown to associate with signal transducing subunit of the high affinity IgE receptor. Src family kinases Hck and Lyn show increased kinase activity and will co-immunoprecipitate with CD64 subsequent to receptor cross linking.

CHROMOSOMAL LOCATION

Genetic locus: Fcgr1 (mouse) mapping to 3 F2.1.

SOURCE

CD64 (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 46-67 within an N-terminal extracellular domain of CD64 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-515431 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

CD64 (C-6) is recommended for detection of CD64 of mouse origin by Western Blotting (starting dilution 1:100, 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), 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 CD64 siRNA (m): sc-35018, CD64 shRNA Plasmid (m): sc-35018-SH and CD64 shRNA (m) Lentiviral Particles: sc-35018-V.

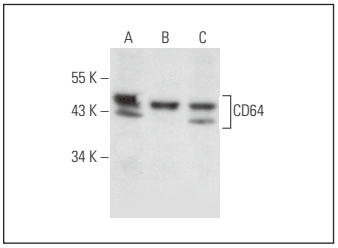
Molecular Weight of CD64: 43 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, NIH/3T3 whole cell lysate: sc-2210 or WEHI-231 whole cell lysate: sc-2213.

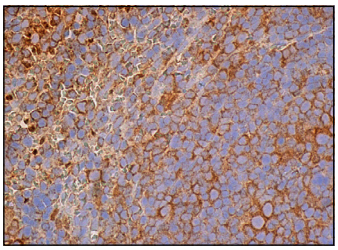
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



CD64 (C-6): sc-515431. Western blot analysis of CD64 expression in RAW 264.7 (**A**), WEHI-231 (**B**) and NIH/3T3 (**C**) whole cell lysates.



CD64 (C-6): sc-515431. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of cells in white pulp and cells in red pulp.

SELECT PRODUCT CITATIONS

1. Zhang, H., et al. 2018. FcγRI (CD64) contributes to the severity of immune inflammation through regulating NFκB/NLRP3 inflammasome pathway. Life Sci. 207: 296-303.
2. Wang, Q., et al. 2020. Naringenin attenuates nonalocholic fatty liver disease by downregulating NLRP3/NFκB pathway in mice. Br. J. Pharmacol. 177: 1806-1821.
3. Zhao, M.Z., et al. 2021. Specific Ag-guiding nano-vaccines attenuate neutrophil-dominant allergic asthma. Mol. Immunol. 129: 103-111.
4. Saeed, K., et al. 2021. 17β-estradiol abrogates oxidative stress and neuro-inflammation after cortical stab wound injury. Antioxidants 10: 1682.
5. Luo, X.Q., et al. 2021. Flagellin alleviates airway allergic response by stabilizing eosinophils through modulating oxidative stress. J. Innate Immun. 13: 333-344.
6. Lv, X., et al. 2022. Flagellin maintains eosinophils in the intestine. Cytokine 150: 155769.
7. Liu, J., et al. 2022. Circulating hemopexin modulates anthracycline cardiac toxicity in patients and in mice. Sci. Adv. 8: eadc9245.

PROTOCOLS

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