

CD64 (R-16): sc-31215

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.

REFERENCES

1. Porges, A.J., et al. 1992. Novel Fcγ receptor I family gene products in human mononuclear cells. *J. Clin. Invest.* 90: 2102-2109.
2. Valerius, T., et al. 1993. Involvement of the high-affinity receptor for IgG (FcγRI; CD64) in enhanced tumor cell cytotoxicity of neutrophils during granulocyte colony-stimulating factor therapy. *Blood* 82: 931-939.
3. Wang, A.V., et al. 1994. Physical and functional association of the high affinity immunoglobulin G receptor (FcγRI) with the kinases Hck and Lyn. *J. Exp. Med.* 180: 1165-1170.
4. Hulett, M.D., et al. 1995. Multiple regions of human FcγRII (CD32) contribute to the binding of IgG. *J. Biol. Chem.* 270: 21188-21194.
5. Engelhardt, W., et al. 1995. Activation-dependent expression of low affinity IgG receptors FcγRII (CD32) and FcγRIII (CD16) in subpopulations of human T lymphocytes. *Immunobiol.* 192: 297-320.
6. Capsoni, F., et al. 1995. IL-10 upregulates human monocyte phagocytosis in the presence of IL-4 and IFN-γ. *J. Leukocyte Biol.* 58: 351-358.

CHROMOSOMAL LOCATION

Genetic locus: FCGR1A (human) mapping to 1q21.2; Fcgr1 (mouse) mapping to 3 F2.1.

SOURCE

CD64 (R-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of CD64 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-31215 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CD64 (R-16) is recommended for detection of CD64 mature chain, isotypes A, B and C of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with CD16.

Suitable for use as control antibody for CD64 siRNA (h): sc-35017, CD64 siRNA (m): sc-35018, CD64 shRNA Plasmid (h): sc-35017-SH, CD64 shRNA Plasmid (m): sc-35018-SH, CD64 shRNA (h) Lentiviral Particles: sc-35017-V and CD64 shRNA (m) Lentiviral Particles: sc-35018-V.

Molecular Weight of CD64: 70 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or U-937 cell lysate: sc-2239.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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



Try **CD64 (10.1): sc-1184**, our highly recommended monoclonal alternative to CD64 (R-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **CD64 (10.1): sc-1184**.