

CD16 (Y-15): sc-19357

BACKGROUND

CD16, the low affinity Fc γ receptor III for IgG (Fc γ RIII), exists as a polypeptide-anchored form (Fc γ RIIIA or CD16-A) in human natural killer cells and macrophages and as a glycosylphosphatidylinositol-anchored form (Fc γ RIIIB or CD16-B) in neutrophils. CD16-A requires association of the γ subunit of Fc ϵ RI or the ζ subunit of the TCR-CD3 complex for cell surface expression. The CD16-B is polymorphic and the two alleles are termed NA1 and NA2. CD16 is one of only four eukaryotic receptors known to exist natively in both the transmembrane (TM, CD16-A) and glycosylphosphatidylinositol (GPI, CD16-B) isoforms. Patients with paroxysmal nocturnal haemoglobinuria (PNH) have only about 10% of the normal levels of CD16 on their neutrophils, whereas the expression of FcRIII is unaffected. Analysis of FcRIII expression in cells of PNH patients, known to be deficient in PI-linked proteins, suggests FcRIII is not PI-linked in monocytes.

REFERENCES

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4. Nagarajan, S., et al. 1995. Ligand binding and phagocytosis by CD16 (Fc γ receptor III) isoforms. Phagocytic signaling by associated ζ and γ subunits in Chinese hamster ovary cells. *J. Biol. Chem.* 270: 25762-25770.
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8. Chesla, S., et al. 2000. The membrane anchor influences ligand binding two-dimensional kinetic rates and three-dimensional affinity of Fc γ RIII. *J. Biol. Chem.* 275: 10235-10246.
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STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: FCGR3 (human) mapping to 1q23.

SOURCE

CD16 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CD16 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.

Blocking peptide available for competition studies, sc-19357 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CD16 (Y-15) is recommended for detection of CD16-A and CD16-B of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CD16-A/B siRNA (h): sc-42758, CD16-A/B shRNA Plasmid (h): sc-42758-SH and CD16-A/B shRNA (h) Lentiviral Particles: sc-42758-V.

Molecular Weight of CD16: 50-100 kDa.

Positive Controls: NK-92 whole cell lysate: sc-364788 or human platelet extract: sc-363773.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.



Try **CD16 (DJ130c): sc-20052** or **CD16 (GRM1): sc-19594**, our highly recommended monoclonal alternatives to CD16 (Y-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **CD16 (DJ130c): sc-20052**.