

CD16 (MEM-154): sc-51525

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 RIIB 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

1. Fleit, H.B., et al. 1982. Human neutrophil Fc γ receptor distribution and structure. *Proc. Natl. Acad. Sci. USA* 79: 3275-3279.
2. Perussia, B., et al. 1984. The Fc receptor for IgG on human natural killer cells: phenotypic, functional and comparative studies with monoclonal antibodies. *J. Immunol.* 133: 180-189.
3. Huizinga, T.W., et al. 1988. The PI-linked receptor FcRIII is released on stimulation of neutrophils. *Nature* 333: 667-669.
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.
5. de Haas, M., et al. 1996. A triallelic Fc γ receptor type IIIA polymorphism influences the binding of human IgG by NK cell Fc γ RIIIA. *J. Immunol.* 156: 3948-3955.
6. Tamm, A., et al. 1996. The binding epitopes of human CD16 (Fc γ RIII) monoclonal antibodies. Implications for ligand binding. *J. Immunol.* 157: 1576-1581.

CHROMOSOMAL LOCATION

Genetic locus: FCGR3A/FCGR3B (human) mapping to 1q23.3.

SOURCE

CD16 (MEM-154) is a mouse monoclonal antibody raised against granulocytes of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD16 (MEM-154) is available conjugated either phycoerythrin (sc-51525 PE, 100 tests in 2 ml), for IF, IHC(P) 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

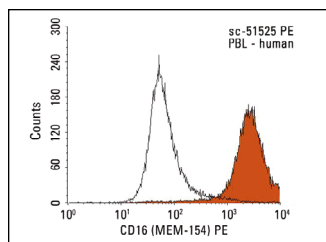
CD16 (MEM-154) is recommended for detection of CD16-A and CD16-B of human origin by Western Blotting (non-reducing) (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

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

Molecular Weight of CD16: 50-100 kDa.

Positive Controls: human platelet extract: sc-363773.

DATA



CD16 (MEM-154): sc-51525. Indirect FCM analysis of human peripheral blood leukocytes stained with CD16 (MEM-154), followed by PE-conjugated goat anti-mouse IgG₁: sc-3764. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

SELECT PRODUCT CITATIONS

1. Gödel, M., et al. 2013. A novel domain regulating degradation of the glomerular slit diaphragm protein podocin in cell culture systems. *PLoS ONE* 8: e57078.

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.



See **CD16 (DJ130c): sc-20052** for additional antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.