Datasheet for ABIN93994

anti-CD16 antibody (Biotin)

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Overview

Quantity:	0.1 mg
Target:	CD16
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CD16 antibody is conjugated to Biotin
Application:	Flow Cytometry (FACS), Immunoprecipitation (IP), Western Blotting (WB)

Product Details

Immunogen:	Human granulocytes
Clone:	MEM-154
Isotype:	IgG1
Specificity:	The antibody MEM-154 reacts with an extracellular epitope on CD16 antigen that is residing in proximity to FG loop (probably BC or C'E loop). CD16 is a low affinity receptor for aggregated IgG (FcgammaRIII antigen). The antibody MEM-154 reacts with CD16+ granulocytes, and it can be used for mapping CD16-158V/F polymorphism on NK cells, as it requires presence of V at amino acid 158.
Cross-Reactivity (Details):	Human
Purification:	Purified antibody is conjugated with biotin LC-NHS ester under optimum conditions and unconjugated antibody and free biotin are removed by size-exclusion chromatography.

Target Details

Target:	CD16
Alternative Name:	CD16 (CD16 Products)
Background:	CD16 (FcgammaRIII) is a 50-65 kDa glycoprotein serving as a low affinity IgG receptor. Human FcgammaRIII is expressed in two forms –, FcgammaRIII-A and -B. FcgammaRIII-A is a transmembrane protein of monocytes, macrophages, NK cells and a subset of T cells. It is associated with FcepsilonRI-gamma subunit and is responsible for antibody-dependent NK cell cytotoxicity. Mast cell FcgammaRIII-A is associated, moreover, with FcepsilonRI-beta subunit. Besides IgG, FcgammaRIII-A can be triggered also by oligomeric IgE. FcgammaRIII-B is a GPI-linked monomeric receptor expressed on neutrophils and is involved in their activation and induction of a proadhesive phenotype.,FcgammaRIII, IGFR3, FCRIII
Pathways:	Regulation of Leukocyte Mediated Immunity, Positive Regulation of Immune Effector Process

Application Details

Application Notes:	Flow cytometry: Recommended dilution: 5-8 µg/mL, positive control: PBL (peripheral blood lymphocytes). The antibody MEM-154 does not react with CD16a present on NK cells in many subjects.
Comment:	The purified antibody is conjugated with Biotin-LC-NHS under optimum conditions. The reagent is free of unconjugated biotin.
Restrictions:	For Research Use only

Handling

Concentration:	1 mg/mL
Buffer:	Phosphate buffered saline (PBS), pH 7.4, 15 mM sodium azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	**Do not freeze.** Avoid prolonged exposure to light.
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Do not freeze.

Publications

Product cited in:

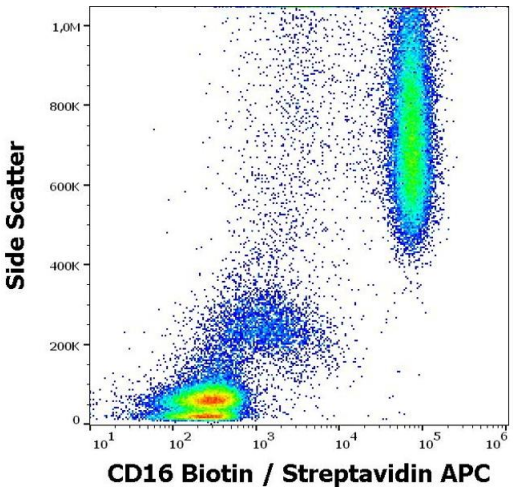
Gasdaska, Sherwood, Regan, Dickey: "An afucosylated anti-CD20 monoclonal antibody with greater antibody-dependent cellular cytotoxicity and B-cell depletion and lower complement-dependent cytotoxicity than rituximab." in: **Molecular immunology**, Vol. 50, Issue 3, pp. 134-41, (2012) (PubMed).

Koene, Kleijer, Algra, Roos, von dem Borne, de Haas: "Fc gammaRIIIa-158V/F polymorphism influences the binding of IgG by natural killer cell Fc gammaRIIIa, independently of the Fc gammaRIIIa-48L/R/H phenotype." in: **Blood**, Vol. 90, Issue 3, pp. 1109-14, (1997) (PubMed).

de Haas, Koene, Kleijer, de Vries, Simsek, van Tol, Roos, von dem Borne: "A triallelic Fc gamma receptor type IIIA polymorphism influences the binding of human IgG by NK cell Fc gamma RIIIa." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 156, Issue 8, pp. 2948-55, (1996) (PubMed).

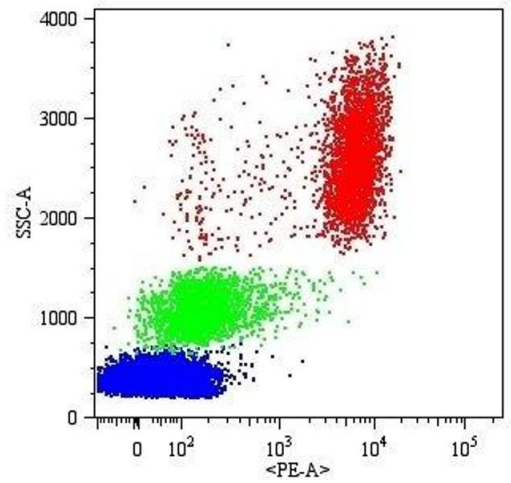
Tamm, Schmidt: "The binding epitopes of human CD16 (Fc gamma RIII) monoclonal antibodies. Implications for ligand binding." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 157, Issue 4, pp. 1576-81, (1996) (PubMed).

Images



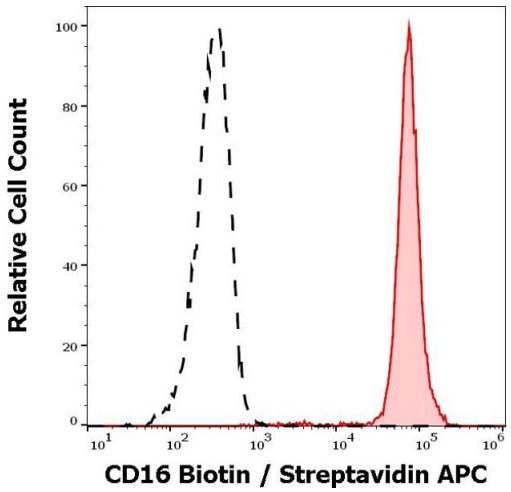
Flow Cytometry

Image 1. Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human CD16 (MEM-154) Biotin antibody (concentration in sample 0,6 µg/mL, Streptavidin APC).



Flow Cytometry

Image 2. Surface staining of human peripheral blood cells with anti-human CD16 (MEM-154) PE. The antibody MEM-154 does not react with CD16a present on NK cells in many subjects.



Flow Cytometry

Image 3. Separation of neutrophil granulocytes stained anti-human CD16 (MEM-154) Biotin antibody (concentration in sample 0,6 µg/mL, Streptavidin APC, red-filled) from neutrophil granulocytes unstained by primary antibody (Streptavidin APC, black-dashed) in flow cytometry analysis (surface staining).