

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Fcγ RIIIA/B (CD16) in direct ELISAs. In direct ELISAs, approximately 10% cross-reactivity with recombinant human Fcγ RIIA and recombinant mouse Fcγ RIII is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 245536
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Fcγ RIIIA/B (CD16) Thr20-Gln208 Accession # O75015
Conjugate	Biotin Excitation Wavelength: N/A nm Emission Wavelength: N/A nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

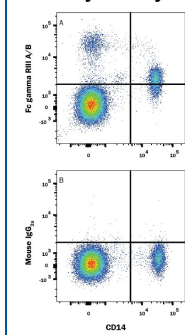
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Flow Cytometry	10 μL/10 ⁶ cells	See Below

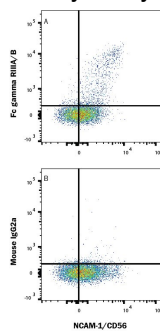
DATA

Flow Cytometry



Detection of Fc gamma RIII (CD16) in Human PBMCs by Flow Cytometry. Human peripheral blood mononuclear cells (PBMCs) were stained with Mouse Anti-Human CD14 APC-conjugated Monoclonal Antibody (Catalog # [FAB3832A](#)) and either (A) Mouse Anti-Human Fc gamma RIII (CD16) Biotinylated Monoclonal Antibody (Catalog # [FAB2546B](#)) or (B) Mouse IgG_{2A} Biotinylated Isotype Control (Catalog # [IC003B](#)) followed by Streptavidin-Phycoerythrin (Catalog # [F0040](#)). View our protocol for [Staining Membrane-associated Proteins](#).

Flow Cytometry



Detection of Fc gamma RIII (CD16) in Human PBMCs by Flow Cytometry. Human peripheral blood mononuclear cells (PBMCs) were stained with Mouse Anti-Human NCAM-1/CD56 Alexa Fluor® 647-conjugated Monoclonal Antibody (Catalog # [FAB24086R](#)) and either (A) Mouse Anti-Human Fc gamma RIII (CD16) Biotinylated Monoclonal Antibody (Catalog # [FAB2546B](#)) or (B) Mouse IgG_{2A} Biotinylated Isotype Control (Catalog # [IC003B](#)) followed by Streptavidin-Phycoerythrin (Catalog # [F0040](#)). View our protocol for [Staining Membrane-associated Proteins](#).

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD16 (also known as FcγRIII) is a CD designation that, in human, encompasses two related, but distinct Ig superfamily genes; CD16a and CD16b. Mature human CD16a is a 45-75 kDa type I transmembrane glycoprotein that is 238 amino acids (aa) in length. It contains a 192 aa extracellular region that possesses two Ig-like domains plus glycosylation that is critical to its function, and ends with a short 25 aa cytoplasmic domain. On the cell surface, CD16a complexes with FcεRI and CD3ζ. CD16a shows a restricted expression pattern, being found on immature thymocytes, placental trophoblast cells, CD56dim and cytokine-activated CD56+ NK cells, *slan* (sulfated NAcLac)-expressing dendritic cells, and CX3CR1+ CD14+/- "patrolling" monocytes. Mature CD16b, by contrast, is slightly smaller than CD16a, but still shows the same 50-70 kDa electrophoretic pattern in SDS-PAGE. It is a GPI-linked glycoprotein that is 184 aa in length. On the cell surface, CD16b is monomeric. The standard allele (= NA2) is encoded by the SwissProt Accession # used for this product (see above). The two variant alleles are NA1, which shows four aa substitutions, and SH, which contains only one aa substitution relative to the NA2 sequence. CD16b expression appears to be limited to neutrophils. CD16b is known to be solubilized, and the soluble form is believed to arise from the action of ADAM-17 rather than a phospholipase. Over aa 20-208, human CD16a and CD16b share 97% aa sequence identity. Over the same aa range, human CD16b and mouse CD16 share only 47% aa sequence identity.