

Human Fcy RIIIB/CD16b Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 245514

Catalog Number: FAB1597T

Species Reactivity	Human		
Specificity	Detects human Fcγ RIIIB/CD16b in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human Fcγ F or recombinant mouse Fcγ RIII is observed. In flow cytometry of whole blood, recognition of Fcγ RIIIB on the granulocyte population, but Fcγ RIIIA on NK cells, is observed.		
Source	Monoclonal Mouse IgG _{2B} Clone # 245514		
Purification	Protein A or G purified from hybridoma culture supernatant		
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Fcγ RIIIB/CD16b Thr20-Gln208 Accession # O75015		
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm		
Formulation	Supplied 0.2 mg/mL 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 Shee (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	0.25-1 µg/10 ⁶ cells	See Below		

DATA Flow Cytometry Relative Cell Number 103 104 Fc gamma RIIIB/CD16b

Detection of Fc gamma RIIIB/CD16b in **Human Peripheral Blood Granulocytes by** Flow Cytometry. Human peripheral blood granulocytes were stained with Mouse Anti-Human Fc gamma RIIIB/CD16)b Alexa Fluor® 594-conjugated Monoclonal Antibody (Catalog # FAB1597T, filled histogram) or Mouse IgG2B Alexa Fluor 594 Isotype Control (Catalog # IC0041T, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below Shipping

Stability & Storage

Protect from light. Do not freeze.

• 12 months from date of receipt, 2 to 8 °C as supplied.





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BACKGROUND

Receptors for the Fc region of IgG (Fc γ R) are members of the Ig superfamily. Based on their genetic organization and molecular structure, three classes of human Fc γ Rs: RI (CD64), RII (CD32), and RIII (CD16), which generate multiple isoforms, are recognized (1-3). These receptors function in the activation or inhibition of immune responses. The activating-type receptor either has, or associates non-covalently with an accessory subunit (FcR γ or ζ chain) that has an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. In contrast, the inhibitory receptor (Fc γ RIIB) has a built-in immunoreceptor tyrosine-based inhibitory motif (ITIM) in its own cytoplasmic domain. Fc γ RI is a high-affinity receptor that binds monomeric IgG. Both Fc γ RII and RIII are low-affinity receptors that bind IgG in the form of immune complexes. Two genes for human Fc γ RIII, A and B, encoding a transmembrane receptor and a glycosylphosphatidylinositol (GPI) anchored protein, respectively, have been identified. Three allelic variants of Fc γ RIIIB, NA-1, NA-2, and SH, exist. A soluble form of Fc γ RIIIB corresponding to the extracellular region of the receptor is produced by proteolytic cleavage and circulates in plasma and other body fluids. The extracellular domains of Fc γ RIIIA and B share 97% amino acid sequence homology. Whereas Fc γ RIIIA is expressed on most effector cells of the immune system including macrophage, monocyte, NK cells, mast cells, eosinophils, dendritic cells, and Langerhans cells, Fc γ RIIIB is selectively expressed in neutrophils and eosinophils. Signaling through Fc γ RIIIA in oxidative burst, cytokine release and phagocytosis by macrophages, antibody-dependent cellular cytotoxicity by natural killer cells and degranulation of mast cells. By contrast, Fc γ RIIIB is a decoy receptor that binds IgG complexes without triggering activation. Soluble Fc γ RIIIB is a regulatory role in inflammatory processes (4). It interacts with complement receptors CR3 and CR4 on monoc

References:

- 1. van de Winkel, J. and P. Capes (1993) Immunol. Today 14:215.
- 2. Ravetch, J.V. and S. Bolland (2001) Annu. Rev. Immunol. 19:275.
- Takai, T. (2002) Nature Rev. Immunol. 2:580.
- 4. Gauchat, G.J. et al. (1996) J. Immunol. 157:1184

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