

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Fc gamma RII/CD32 in direct ELISAs and Western blots. In Western blots, less than 5% cross-reactivity with recombinant human Fc gamma RIIIB is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Fc γ RIIA/CD32a Ala36-Ile218 Accession # AAA35827
Endotoxin Level	<0.10 EU per 1 μ g of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 μ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μ m filtered solution in PBS.

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
Western Blot	0.1 μ g/mL	Recombinant Human Fc γ RIIA/CD32a (Catalog # 1330-CD)
Flow Cytometry	2.5 μ g/10 ⁶ cells	Human peripheral blood granulocytes
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.2-0.6 μ g/mL of this antibody will block 50% of the binding of 1 μ g/mL of human IgG to immobilized Recombinant Human Fc γ RIIA/CD32a (Catalog # 1330-CD) coated at 1 μ g/mL (100 μ L/well). At 50 μ g/mL, this antibody will block >90% of the binding.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 $^{\circ}$ C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 $^{\circ}$C as supplied. • 1 month, 2 to 8 $^{\circ}$C under sterile conditions after reconstitution. • 6 months, -20 to -70 $^{\circ}$C under sterile conditions after reconstitution.

BACKGROUND

Receptors for the Fc region of IgG (Fc γ R) are members of the Ig superfamily that function in the activation or inhibition of immune responses. Three classes of human Fc γ Rs: RI (CD64), RII (CD32), and RIII (CD16), which generate multiple isoforms, are recognized (1 - 3). The activating-type receptor either has or associates non-covalently with an accessory subunit (Fc γ R γ or ζ chain) that has an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. In contrast, the inhibitory receptor (Fc γ RIIIB) 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 aggregated or immune complexed IgG (IC).

Three genes for human Fc γ RII (A, B, and C) and one for mouse (Fc γ RIIIB), encoding type I transmembrane proteins with ITAM motifs (Fc γ RII A and C) or ITIM motifs (Fc γ RIIIB) in their cytoplasmic domains, have been identified (1 - 3). The extracellular domain of human Fc γ RIIA shares approximately 90% amino acid sequence homology with human Fc γ RIIIB and Fc γ RIIIC. Fc γ RIIA is expressed on many immune cell types (macrophage, neutrophil, eosinophils, platelets, dendritic cells and Langerhan cells) where inhibitory ITIM-bearing receptors may also be coexpressed and co-engaged by specific ligands. Signaling through Fc γ RIIA results in the initiation of inflammatory responses (cytolysis, phagocytosis, degranulation and cytokine production) that can be modulated by signals from the inhibitory receptors. The strength of the signal is dependent on the ratio of expression of the activating and inhibitory receptors. Besides IC, Fc γ RII A also binds C-reactive protein (CRP) (4, 5). Two allelic variants (R167 and H167) of Fc γ RIIA that differ in their ability to ligate human IgG2 or CRP exist. The H167 allele has been found to have a protective effect against lupus nephritis.

References:

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3. Takai, T. (2002) Nature Rev. Immunol. **2**:580.
4. Chi, M. *et al.* (2002) J. Immunol. **168**:1413.
5. Zuniga, R. *et al.* (2003) Arthritis Rheum. **48**:460.