Human Fcγ RIIA/CD32a Antibody
Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1875

DESCRIPTION
Species Reactivity  Human
Specificity  Detects human FcγRIIA/CD32a in direct ELISAs and Western blots. In Western blots, less than 5% cross-reactivity with recombinant human (rh) FcγRIIB and rhFcyRIIB is observed.
Source  Polyclonal Goat IgG
Purification  Antigen Affinity-purified
Immunogen  Mouse myeloma cell line NS0-derived recombinant human FcγRIIA/CD32a A1a36-Ile218 Accession # AAA35827
Endotoxin Level  <0.10 EU per 1 μg of the antibody by the LAL method.
Formulation  Lyophilized from a 0.2 μm 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 mg/mL 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.

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<th>Western Blot</th>
<th>Recommended Concentration</th>
<th>Sample</th>
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<td>0.1 μg/mL</td>
<td>Recombinant Human FcγRIIA/CD32a (Catalog # 1330-CD)</td>
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| Flow Cytometry | 2.5 μg/10⁶ 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 μg/mL of this antibody will block 50% of the binding of 1 μg/mL of human IgG to immobilized Recombinant Human FcγRIIA/CD32a (Catalog # 1330-CD) coated at 1 μg/mL (100 μL/well). At 50 μg/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 °C

Stability & Storage  Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND
Receptors for the Fc region of IgG (Fcγ R) are members of the Ig superfamily that function in the activation or inhibition of immune responses. Three classes of human FcγRs: RI (CD64), RII (CD32), and RII (CD16), which generate multiple isoforms, are recognized (1 - 3). The activating-type receptor either has or associates non-covalently with an accessory subunit (FcγRγ or γ chain) that has an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. In contrast, the inhibitory receptor (FcγRIIB) has a built-in immunoreceptor tyrosine-based inhibitory motif (ITIM) in its own cytoplasmic domain. FcγRI is a high-affinity receptor that binds monomeric IgG, both FcγRII and FcγRII are low-affinity receptors that bind aggregated or immune complexed IgG (IC).

Three genes for human FcγRII (A, B, and C) and one for mouse (FcγRIIb), encoding type I transmembrane proteins with ITAM motifs (FcγRIIA and C) or ITIM motifs (FcγRIIB) in their cytoplasmic domains, have been identified (1 - 3). The extracellular domain of human FcγRIIA shares approximately 90% amino acid sequence homology with human FcγRII and FcγRIIC. FcγRIIA is expressed on many immune cell types (macrophage, neutrophil, eosinophil, platelets, dendritic cells and Langerhan cells) where inhibitory ITIM-bearing receptors may also be coexpressed and co-engaged by specific ligands. Signaling through FcγRIIA 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, FcγRIIA also binds C-reactive protein (CRP) (4, 5). Two allelic variants (R167 and H167) of FcγRIIA 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: