**DESCRIPTION**

**Species Reactivity** Human

**Specificity** Detects human Fc γRIIIA/B (CD16) in Western blots. In this format, approximately 10% cross-reactivity with recombinant human Fc γRIIA is observed.

**Source** Polyclonal Goat IgG

**Purification** Antigen Affinity-purified

**Immunogen** Mouse myeloma cell line NS0-derived recombinant human Fc γRIIIB (R&D Systems, Catalog # 1597-FC) Thr20-Glu208 Accession # O75015

**Formulation** Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**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.

<table>
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<tr>
<th>Sample</th>
<th>Recommended Concentration</th>
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<tr>
<td>Western Blot</td>
<td>0.1 μg/mL</td>
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**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.

**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. Based on their genetic organization and molecular structure, three classes of human Fcγ 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 (FcγRy or ζ 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. Fcγ RI is a high-affinity receptor that binds monomeric IgG. Both Fcγ RI and RII are low-affinity receptors that bind IgG in the form of immune complexes. Two genes for human Fcγ RIIIA and B, encoding a transmembrane receptor and a glycosylphosphatidylinositol (GPI) anchored protein, respectively, have been identified. Three allelic variants of FcγRIIB, NA-1, NA-2, and SH, exist. A soluble form of FcγRIIB 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 Fcγ RIIIA and B share 97% amino acid sequence homology. Whereas Fcγ RIIIA is expressed on most effector cells of the immune system including macrophage, monocyte, NK cells, mast cells, eosinophils, dendritic cells and Langerhans cells, Fcγ RIIB is selectively expressed in neutrophils and eosinophils. Signaling through Fcγ RIIIA results in oxidative burst, cytokine release and phagocytosis by macrophages, antibody-dependent cellular cytotoxicity by natural killer cells and degranulation of mast cells. By contrast, Fcγ RIIB is a decoy receptor that binds IgG complexes without triggering activation. Soluble Fcγ RIIB has a regulatory role in inflammatory processes (4). It interacts with complement receptors CR3 and CR4 on monocytes to induce the production of pro-inflammatory cytokines.

**References:**