

**DESCRIPTION**

**Source** Human embryonic kidney cell, HEK293-derived  
Ala46-Pro217, with a C-terminal 6-His tag  
Accession # NP\_001271060

**N-terminal Sequence Analysis** Ala46

**Predicted Molecular Mass** 20 kDa

**SPECIFICATIONS**

**SDS-PAGE** 21-35 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
When Recombinant Cynomolgus Monkey Fcγ RIIB/CD32b is immobilized on a His Tag Antibody coated plate, it binds Biotinylated Human IgG. The concentration of Biotinylated Human IgG that produces 50% of the optimal binding response is approximately 0.3-1.5 μg/mL.

**Endotoxin Level** <0.10 EU per 1 μg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation** Lyophilized from a 0.2 μm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

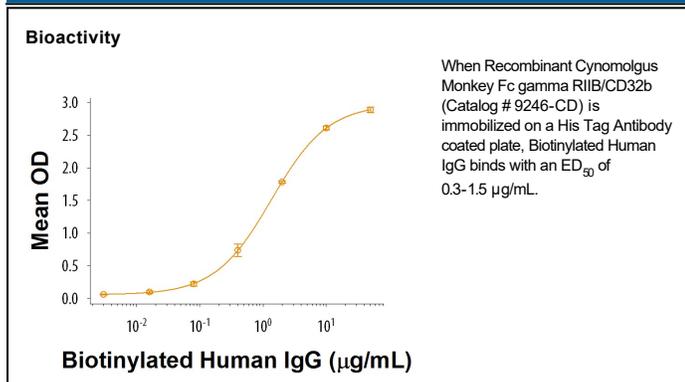
**Reconstitution** Reconstitute at 200 μg/mL in PBS.

**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.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**DATA**



**BACKGROUND**

Receptors for the Fc region of IgG (Fcγ Rs) are members of the Ig superfamily that function in the activation or inhibition of immune responses such as degranulation, phagocytosis, ADCC (antibody-dependent cellular toxicity), cytokine release, and B cell proliferation (1). The Fcγ Rs have been divided into three classes based on close relationships in their extracellular domains; these groups are designated Fcγ RI/CD64, Fcγ RII/CD32, and Fcγ RIII/CD16. CD32 proteins are encoded by three genes in human (Fcγ RII A, B, and C), two in cynomolgus (Fcγ RII A and B), and one in mouse (Fcγ RIIB). Fcγ RII A and C contain activating cytoplasmic ITAM sequences, while Fcγ RIIB contains an inhibitory cytoplasmic ITIM sequence. The CD64 proteins are high affinity receptors (~10<sup>-8</sup>-10<sup>-9</sup> M) capable of binding monomeric IgG, whereas the CD16 and CD32 proteins bind IgG with lower affinities (~10<sup>-6</sup>-10<sup>-7</sup> M) and only recognize IgG aggregates surrounding multivalent antigens (1). The approximately 40 kDa mature cynomolgus Fcγ RIIB consists of a 175 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 23 aa transmembrane segment, and a 51 aa cytoplasmic domain. Within the ECD, cynomolgus Fcγ RIIB shares 90%, 64%, and 61% aa sequence identity with human, mouse, and rat Fcγ RIIB, respectively. It binds to both cynomolgus and human IgG subclasses 1-4 (2). Fcγ RIIB is expressed on B cells, monocytes, dendritic cells, neutrophils, mast cells, and basophils (1). Ligation of Fcγ RIIB triggers signaling that suppresses B cell expansion, plasma cell differentiation, production of autoimmune rheumatoid factors, and down-regulation of TLR4 with reduced LPS responsiveness (3-6).

**References:**

1. Nimmerjahn, F. and J.V. Ravetch (2008) Nat. Rev. Immunol. **8**:34.
2. Warncke, M. *et al.* (2012) J. Immunol. **188**:4405.
3. Takai, T. *et al.* (1996) Nature **379**:346.
4. Karnell, J.L. *et al.* (2014) J. Immunol. **192**:1480.
5. Moll, T. *et al.* (2004) J. Immunol. **173**:4724.
6. Zhang, Y. *et al.* (2009) J. Immunol. **182**:554.