

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived
His32-Pro212, with a C-terminal 6-His tag
Accession # Q63203

N-terminal Sequence Analysis His32 & Gly34

Predicted Molecular Mass 21 kDa

SPECIFICATIONS

SDS-PAGE 33-45 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Rat Fcγ RIIB/CD32b is immobilized on an anti-His Tag Antibody coated plate, it binds Biotinylated Rat IgG. The concentration of Biotinylated Rat IgG that produces 50% of the optimal binding response is 0.5-3 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

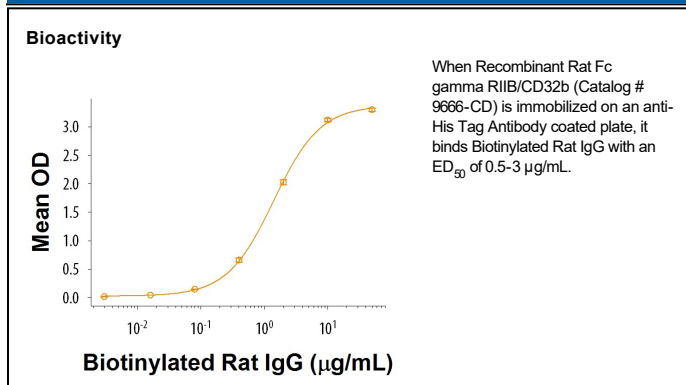
Reconstitution Reconstitute at 100 μg/mL in PBS.

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 (Fc gamma 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 Fc gamma Rs have been divided into three classes based on close relationships in their extracellular domains; these groups are designated Fc gamma RI/CD64, Fc gamma RII/CD32, and Fc gamma RIII/CD16. Fc gamma RII A and C contain activating cytoplasmic ITAM sequences, while Fc gamma RIIB contains an inhibitory cytoplasmic ITIM sequence. The Fc gamma RI proteins are high affinity receptors (~10⁻⁸-10⁻⁹ M) capable of binding monomeric IgG, whereas the Fc gamma RII and RIII proteins bind IgG with lower affinities (~10⁻⁶-10⁻⁷ M) and only recognize IgG aggregates surrounding multivalent antigens (1). The mature rat Fc gamma RIIB consists of a 181 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 21 aa transmembrane segment, and a 52 aa cytoplasmic domain. Within the ECD, rat Fc gamma RIIB shares 58% and 78 % aa sequence identity with human and mouse Fc gamma RIIB, respectively. It binds to both cynomolgus and human IgG subclasses 1-4 (2). Fc gamma RIIB is expressed on B cells, monocytes, dendritic cells, neutrophils, mast cells, and basophils (1). Ligation of Fc gamma 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). The coordinated functioning of activating and inhibitory receptors is necessary for successful initiation, amplification, and termination of immune responses (7).

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.
7. Ravetch, J. and L. Lanier (2000) Science **290**:84.