

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived
Thr29-Ile211, with a C-terminal 6-His tag
Accession # NP_001270598

N-terminal Sequence Analysis Thr29

Predicted Molecular Mass 21 kDa

SPECIFICATIONS

SDS-PAGE 23-32 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Cynomolgus Monkey Fcγ RIIA/CD32a 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 0.75-3.75 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

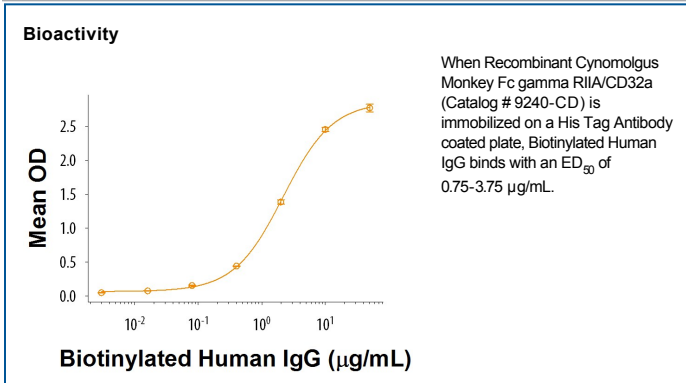
Reconstitution Reconstitute at 200 µg/mL in PBS.

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, 2). 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 ITAM sequences, while Fcγ RIIB contains an ITIM sequence in their cytoplasmic domains. The CD64 proteins are high affinity receptors ($\sim 10^{-8}$ - 10^{-9} M) capable of binding monomeric IgG, whereas the CD16 and CD32 proteins bind IgG with lower affinities ($\sim 10^{-6}$ - 10^{-7} M) and only recognize IgG aggregates surrounding multivalent antigens (1, 3). Mature cynomolgus Fcγ RIIA consists of a 183 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 23 aa transmembrane segment, and a 77 aa cytoplasmic domain. Within the ECD, cynomolgus Fcγ RIIA shares 89% aa sequence identity with human Fcγ RIIA. It binds cynomolgus and human IgG subclasses 1-4 as well as human Pentraxin-2, and C-Reactive Protein (4, 5). It delivers activating signals through its cytoplasmic ITAM sequence (6). Fcγ RIIA signaling cooperates with Integrin $\alpha 2\beta 3$ and the CD42b-GP1b-IX-V complex to promote platelet adhesion and activation (7, 8). Fcγ RIIA is expressed on monocytes, monocytes, and platelets and additionally on cynomolgus granulocytes (1, 4).

References:

1. Qiao, J. *et al.* (2015) *Immunol. Rev.* **268**:241.
2. Ravetch, J. and S. Bolland (2001) *Annu. Rev. Immunol.* **19**:275.
3. Takai, T. (2002) *Nature Rev. Immunol.* **2**:580.
4. Warncke, M. *et al.* (2012) *J. Immunol.* **88**:4405.
5. Lu, J. *et al.* (2008) *Nature* **456**:989.
6. Rosenfeld, S.I. *et al.* (1985) *J. Clin. Invest.* **76**:2317.
7. Sullam, P.M. *et al.* (1998) *J. Biol. Chem.* **273**:5331.
8. Boylan, B. *et al.* (2008) *Blood* **112**:2780.