

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived
Val11-Pro288, with a C-terminal 6-His tag
Accession # NP_001270969

N-terminal Sequence Analysis Val11

Predicted Molecular Mass 32 kDa

SPECIFICATIONS

SDS-PAGE 38-46 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Human IgG is immobilized at 0.5 μ g/mL, 100 μ L/well, the concentration of Recombinant Cynomolgus Monkey Fc γ RI/CD64 that produces 50% of the optimal binding response is approximately 1-5 ng/mL.

Endotoxin Level <0.10 EU per 1 μ g 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 μ m filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

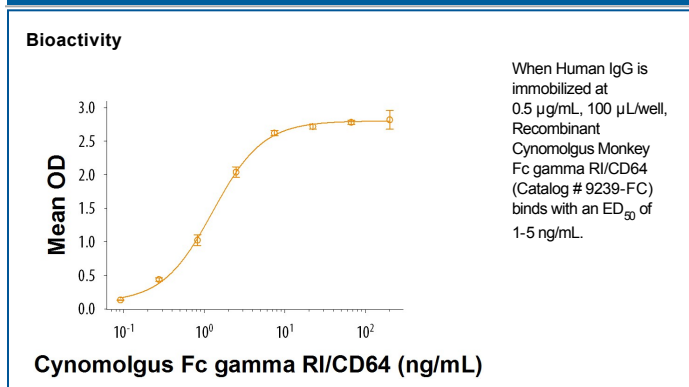
Reconstitution Reconstitute at 200 μ g/mL in PBS.

Shipping The product is shipped with polar packs. 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 γ 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 Fc γ Rs have been divided into three classes based on close relationships in their extracellular domains; these groups are designated Fc γ RI/CD64, Fc γ RII/CD32, and Fc γ RIII/CD16. Each group may be encoded by multiple genes and exist in different isoforms depending on species and cell type. 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 Fc γ RI consists of a 277 amino acid (aa) extracellular domain (ECD) with three Ig-like domains, a 21 aa transmembrane segment, and a 61 aa cytoplasmic domain. Within the ECD, cynomolgus Fc γ RI shares 95%, 72%, and 66% aa sequence identity with human, mouse, and rat Fc γ RI, respectively. It binds cynomolgus IgG subclasses 1-4 as well as human IgG 1, 3, and 4 (4, 5). It delivers an activating signal via the associated Fc R gamma accessory chain (6). Fc γ RI is expressed constitutively on monocytes, macrophages, and monocyte-derived dendritic cells and can be induced on neutrophils, eosinophils, mast cells, and glomerular mesangial cells (1, 3). Its expression is up-regulated during bacterial infections and sepsis.

References:

1. Chenoweth, A.M. *et al.* (2015) *Immunol. Rev.* **268**:175.
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. Nguyen, D.C. *et al.* (2014) *Immunogenetics* **66**:361.
6. van Vugt, M.J. *et al.* (1996) *Blood* **87**:3593.