Recombinant Cynomolgus Monkey Fcγ RI/CD64

Catalog Number: 9239-FC

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

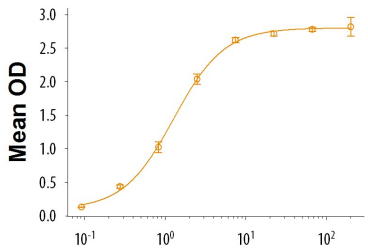
SDS-PAGE	38-46 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Human IgG is immobilized at 0.5 µg/mL, 100 µL/well, the concentration of Recombinant Cynomolgus Monkey Fcγ RI/CD64 that produces 50% of the optimal binding response is approximately 1-5 ng/mL.
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 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

Bioactivity



When Human IgG is immobilized at 0.5 µg/mL, 100 µL/well, Recombinant Cynomolgus Monkey Fc gamma RI/CD64 (Catalog # 9239-FC) binds with an ED_{50} of 1-5 ng/mL.

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. 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 (~10^{-8} -10^{-9} M) capable of binding monomeric IgG, whereas the CD16 and CD32 proteins bind IgG with lower affinities (~10^{-6}-10^{-7} M) and only recognize IgG aggregates surrounding multivalent antigens (1, 3). Mature cynomolgus Fcγ 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 Fcγ RI shares 95%, 72%, and 66% aa sequence identity with human, mouse, and rat Fcγ 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). Fcγ 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:

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3. Takai, T. (2002) Nature Rev. Immunol. **2**:580.
4. Warncke, M. *et al.* (2012) J. Immunol. **188**:4405.
5. Nguyen, D.C. *et al.* (2014) Immunogenetics **66**:361.
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