

## CD16/FCGR3 Protein, Rhesus, Recombinant (His)

### General Information

Synonyms:	Fc receptor, IgG, low affinity III
Protein Construction:	A DNA sequence encoding the rhesus CD16 (NP_001258584.1) extracellular domain (Met 1-Gly 206) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Gly 17
Species:	Rhesus
Expression Host:	HEK293 Cells
Accession:	A3RFZ7
Molecular Weight:	22.7 kDa (predicted)

### QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized Rhesus FCGR3-His at 10 µg/ml (100 µl/well) can bind recombinant human IgG1 (Fc) . The EC50 of human IgG1 (Fc) is 0.35-0.81 µg/ml.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Fc receptors bind the most common class of antibody, IgG, are called Fc gamma receptors (FcγR). FcγR is divided into three classes, FcγRI (CD64), FcγRII (CD32), and FcγRIII (CD16). CD16 protein is a multifunctional, low/intermediate affinity receptor, which belongs to the immunoglobulin superfamily. It is found on the surface of natural killer cells, neutrophil polymorphonuclear leukocytes, monocytes and macrophages. Mouse CD16 is

encoded by a single gene, while, human CD16 is expressed as two distinct forms (CD16a/FcγRIIIa and CD16b/FcγRIIIb) encoded by two different highly homologous genes in a cell type-specific manner. CD16 is involved in phagocytosis, secretion of enzymes, inflammatory mediators, antibody-dependent cellular cytotoxicity (ADCC), and clearance of immune complexes.

### Reference

- Edberg JC, et al. (2002) Genetic linkage and association of Fcγ receptor IIIA (CD16A) on chromosome 1q23 with human systemic lupus erythematosus. *Arthritis Rheum.* 46(8): 2132-40.
- Li P, et al. (2002) Recombinant CD16A-Ig forms a homodimer and cross-blocks the ligand binding functions of neutrophil and monocyte Fcγ receptors. *Mol Immunol.* 38(7): 527-38.
- Li P, et al. (2007) Affinity and kinetic analysis of Fcγ receptor IIIa (CD16a) binding to IgG ligands. *J Biol Chem.* 282(9): 6210-21.

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