

## CD64 Protein, Rat, Recombinant (His)

### General Information

Synonyms:	Fc receptor, IgG, high affinity I
Protein Construction:	Gln16-Pro285
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	A0A0B4J2J0
Molecular Weight:	31.86 kDa (predicted); 45-55 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Rat Fc gamma RI, His Tag captured on CM5 Chip via Anti-His Antibody can bind Trastuzumab with an affinity constant of 0.74 $\mu$ M as determined in SPR assay (Biacore T200).
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Supplied as 0.22 $\mu$ m filtered solution in PBS (pH 7.4).

### Preparation and Storage

#### 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:

Proteins are shipped with blue ice.

### Protein Background

High affinity immunoglobulin gamma Fc receptor I, also known as FCGR1 and CD64, is an integral membraneglycoprotein and a member of the immunoglobulin superfamily. CD64 is a high affinity receptor for the Fc region of IgG gamma and functions in both innate and adaptive immune responses. Receptors that recognize the Fc portion of IgG function in the regulation of immune response and are divided into three classes designated CD64, CD32, and CD16. CD64 is structurally composed of a signal peptidethat allows its transport to the surface of a cell, threeextracellularimmunoglobulin domainsof the C2-type that it uses to bind antibody, a hydrophobictransmembrane domain, and a short cytoplasmic tail. CD64 isconstitutivelyfound on only macrophages and monocytes, but treatment of polymorphonuclear leukocyteswith cytokines likeIFN $\gamma$ andG-CSFcan induce CD64 expression on these cells. The inactivation of the mouse CD64 resulted in a wide range of defects in antibody Fc-dependent functions. Mouse CD64 is an early participant in Fc-dependent cell activation

and in the development of immune responses.

Reference

Allen J.M., et al.,(1988), Nucleotide sequence of three cDNAs for the human high affinity Fc receptor (FcRI). Nucleic Acids Res. 16:11824-11824.

Allen J.M., et al., (1989), Isolation and expression of functional high-affinity Fc receptor complementary DNAs. Science 243:378-381.

Porges A.J., et al.,(1992), Novel Fc gamma receptor I family gene products in human mononuclear cells.J. Clin. Invest. 90:2102-2109.

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