

CD64 Protein, Canine, Recombinant (His)

General Information

Protein Construction:	A DNA sequence encoding the Canine FCGR1 (NP_001002976.1) (Val11-Pro288) was expressed with a polyhistidine tag at the C-terminus.
Species:	Canine
Expression Host:	HEK293 Cells
Accession:	NP_001002976.1
Molecular Weight:	31.92 kDa (predicted); 43.6 kDa and 40.2 kDa (reducing condition)

QC Testing

Biological Activity:	Immobilized Anti-ErbB2 Antibody (Herceptin), Human IgG1 at 2 µg/mL (100 µL/well) can bind Recombinant Canine CD64/FCGR1 Protein (His Tag), the EC50 is 0.8-2.5 ng/mL.
Purity:	≥ 95% as determined by SDS-PAGE. ≥ 90% as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from sterile PBS, 0.02% Tween 80, pH 7.4. Please contact us for any concerns or special requirements. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

Preparation and Storage

Reconstitution:
Please refer to the lot-specific COA.

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

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 peptide that allows its transport to the surface of a cell, three extracellular immunoglobulin domains of the C2-type that it uses to bind antibody, a

hydrophobic transmembrane domain, and a short cytoplasmic tail. CD64 is constitutively found on only macrophages and monocytes, but treatment of polymorphonuclear leukocytes with cytokines like IFN γ and G-CSF can 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.

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