Recombinant Mouse Fcgrt, His-tagged

Cat. No. Fcgrt-490M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	A DNA sequence encoding the extracellular domain (Met 1- Ser 297) of mouse FCGRT (Q61559) was fused with a polyhistidine tag at the C-terminus, constructed the plasmid 1; A DNA sequence encoding the mouse B2M (P01887) (Met 1- Met 119) constructed the plasmid 2. The two plasmids were co-expressed and the FCGRT/B2M heterodimer was purified.
Species	Mouse
Source	Human Cells
ProteinLength	1-297;1-119 a.a.
Description	IgG receptor FcRn large subunit p51, also known as IgG Fc fragment receptor transporter alpha chain, Neonatal Fc receptor, FCGRT and FCRN, is a single-pass type I membrane protein which belongs to the immunoglobulin superfamily. FcRn / FCGRT is a MHC class I like molecule that functions to protect IgG and albumin from catabolism. FcRn / FCGRT binds to the Fc region of monomeric immunoglobulins gamma. It mediates the uptake of IgG from milk. It may play a role in transfer of immunoglobulin G from mother to fetus. Beta-2-microglobulin, also known as B2M, is a secreted protein which belongs to the beta-2-microglobulin family. It contains one Ig-like C1-type (immunoglobulin-like) domain. Beta-2 microglobulin (B2M) plays a pivotal role in the biology of mammals. B2M forms the small invariable light chain subunit of class I HLA antigens on the cell membrane of all nucleated cells. During the continuous turnover of the HLA molecules. B2M is shed from the cell membrane

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	into blood. Lymphocytes are the main source of serum free B2M. It associates not only with the alpha chain of MHC class I molecules, but also with class I-like molecules. B2M is necessary for cell surface expression of MHC class I and stability of the peptide binding groove. In fact, in the absence of B2M, very limited amounts of MHC class I (classical and non-classical) molecules can be detected on the surface. FcRn complex consist of two subunits: p51, and p14 which is equivalent to beta-2-microglobulin (B2M). It forms an MHC class I-like heterodimer. B2M is a component of the class I major histocompatibility complex (MHC). B2M is also an integral component of the FcRn heterodimer. Failure of passive transfer (FPT) is a condition in which neonates do not acquire protective serum levels of maternal antibodies. A principal component of antibody transport is the neonatal receptor for the Fc portion of immunoglobulin, a heterodimer of a MHC-1 alpha-chain homolog (FcRn) and beta-2-microglobulin (B2M).
Predicted N Terminal	Ser 22 & Ile 21
Form	Lyophilized from sterile PBS, pH7.4.
Molecular Mass	The recombinant heterodimer of mouse FCGRT/B2M comprises 386 (287+99) amino acids and has a calculated molecular mass of 44.2 (32.5+11.7) KDa. The apparent molecular mass of rm FCGRT/B2M heterodimer is approximately 48 & 13 KDa respectively in SDS-PAGE under reducing conditions.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method
Purity	> 97 % as determined by SDS-PAGE
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Storage	Store it under sterile conditions at -70℃. It is recommended that the protein be

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	aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	hardcopy of COA with reconstitution instruction is sent along with the products.

GENE INFORMATION

Gene Name	Fcgrt Fc receptor, IgG, alpha chain transporter [Mus musculus (house mouse)]
Official Symbol	Fcgrt
Synonyms	Fcgrt; FcRn; Fc receptor, IgG, alpha chain transporter; IgG receptor FcRn large subunit p51; neonatal Fc receptor; igG Fc fragment receptor transporter alpha chain
Gene ID	14132
mRNA Refseq	NM_010189
Protein Refseq	NP_034319
UniProt ID	Q61559
Chromosome Location	7 B4; 7 29.12 cM
Pathway	PodNet: protein-protein interactions in the podocyte; XPodNet - protein-protein interactions in the podocyte expanded by STRING
Function	IgG binding; IgG receptor activity; beta-2-microglobulin binding

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