# GRP94 Recombinant Protein

## PRODUCT OVERVIEW

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| **Product Name** | Grp94, Recombinant Protein |
| **Full Product Name** | Grp94 (canine), (recombinant) |
| **Product Gene Name** | Grp94 recombinant protein |
| **Host** | SF21 Insect cells |
| **Form/Format** | Liquid. In 20mM MOPS, pH7.5, containing 0.5mM EDTA |
| **Purity/Purification** | >=90% (SDS-PAGE; Western blot)<br>Purified by multi-step chromatography |
| **Preparation and Storage** | For long term storage, store at -80 degree C<br>Shipping: Shipped on Dry Ice |
| **Molecular Weight** | 92,514 Da |
| **Chromosome Location** | Chromosome: 15; NC_006597.3 (42456790..42474117). Location: chromosome: 15 |
| **3D Structure** | ModBase 3D Structure for P41148 |
| **Source Note** | Produced in a baculovirus expression system |
| **Product Categories/Family for Grp94 recombinant protein** | Cellular Analysis; Oxidative Stress; Proteostasis; Protein Synthesis & Folding |
| **Applications Tested/Suitable for Grp94 recombinant protein** | Western Blot (WB) |
| **Related Product Information for Grp94 recombinant protein** | Grp94 (Glucose-regulated protein 94) is an abundant resident endoplasmic reticulum (ER) lumenal stress protein, which together with cytosolic Hsp90 belongs to the Hsp90 family of molecular chaperones. Grp94 expression is upregulated by stress conditions such as glucose starvation and heat shock, which promote protein misfolding or unfolding. In addition to a homeostatic role in protein folding and assembly, Grp94 can function in the intracellular trafficking of peptides from the extracellular space to the MHC class I antigen processing pathway of antigen presentation cells. |
| **Other Notes** | Small volumes of Grp94 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |
| **Searchable Terms for Grp94 purchase** | MBS565965 is a recombinant protein targeting Grp94. Also known as Grp94 (canine), (recombinant). Host: SF21 Insect cells. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Grp94. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 403497 |
| **NCBI GeneID** | 404019 |
| **NCBI Accession #** | AAA17708.1 |
| **UniProt Primary Accession #** | P41148 |
| **UniProt Related Accession #** | P41148 |
| **NCBI Official Full Name** | GRP94 |

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| **NCBI Official Symbol** | HSP90B1 |
| **NCBI Official Synonym Symbols** | TRA1; GRP94 |
| **UniProt Protein Name** | Endoplasmin |
| **UniProt Synonym Protein Names** | 94 kDa glucose-regulated protein; GRP-94; Heat shock protein 90 kDa beta member 1 |
| **Protein Family** | Putative tetratricopeptide repeat protein |
| **UniProt Gene Name** | HSP90B1 |
| **UniProt Synonym Gene Names** | GRP94; TRA1; GRP-94 |
| **UniProt Entry Name** | ENPL_CANFA |
| **NCBI Protein Information** | endoplasmin; GRP-94; tumor rejection antigen 1; 94 kDa glucose-regulated protein; tumor rejection antigen (gp96) 1; heat shock protein 90 kDa beta member 1 |
| **UniProt Comments for Grp94** | GRP94: Molecular chaperone that functions in the processing and transport of secreted proteins. When associated with CNPY3, required for proper folding of Toll-like receptors. Functions in endoplasmic reticulum associated degradation (ERAD). Has ATPase activity. Homodimer; disulfide-linked. Component of an EIF2 complex at least composed of CELF1/CUGBP1, CALR, CALR3, EIF2S1, EIF2S2, HSP90B1 and HSPA5. Part a large chaperone multiprotein complex comprising DNAJB11, HSP90B1, HSPA5, HYOU, PDIA2, PDIA4, PDIA6, PPIB, SDF2L1, UGT1A1 and very small amounts of ERP29, but not, or at very low levels, CALR nor CANX. Interacts with AIMP1; regulates its retention in the endoplasmic reticulum. Interacts with OS9. Interacts with CNPY3. This interaction is disrupted in the presence of ATP. Interacts with TLR4 and TLR9, but not with TLR3. Belongs to the heat shock protein 90 family.<br><br>Protein type: Heat shock protein; Apoptosis; Secreted, signal peptide; Secreted<br><br>Cellular Component: extracellular matrix; endoplasmic reticulum membrane; focal adhesion; sarcoplasmic reticulum; endoplasmic reticulum lumen; perinuclear region of cytoplasm; plasma membrane; melanosome; midbody; nucleus; cytosol<br><br>Molecular Function: low-density lipoprotein receptor binding; RNA binding; unfolded protein binding; virion binding; protein phosphatase binding; ATP binding<br><br>Biological Process: actin rod formation; ER-associated protein catabolic process; protein folding; response to hypoxia; regulation of phosphoprotein phosphatase activity; negative regulation of apoptosis |
| **Research Articles on Grp94** | **1.** The ATPase activity of GRP94 is essential for chaperone activity in vivo and the essential protein-binding domain of GRP94 is distinct from the N-terminal domain. |
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