

## Product datasheet for **AR03021PU-L**

### HSPA5 / GRP78 (Active Protein) Human Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	HSPA5 / GRP78 (Active Protein) human recombinant protein, 2x0.1 mg
Species:	Human
Expression Host:	E. coli
Concentration:	lot specific
Purity:	>90% pure as determined by SDS-PAGE analysis
Buffer:	Presentation State: Purified State: Liquid purified protein Buffer System: 50 mM Tris/HCl, pH 7.5, 150 mM NaCl and 10% Glycerol
Preparation:	Liquid purified protein
Applications:	<b>Western Blot Control.</b> <b>ATPase activity.</b> This protein has ATPase activity at the time of manufacture of 2.3 $\mu\text{M}$ Phosphate liberated/hr/ $\mu\text{g}$ protein in a 200 $\mu\text{l}$ reaction at 37°C (pH 8) in the presence of 20 $\mu\text{l}$ of 1mM ATP using Malachite Green Assay. <b>Binding Assay.</b> <b>ELISA reference standard.</b>
Protein Description:	Recombinant Human GRP78 Protein with ATPase activity, His-tagged.
Storage:	Upon receipt, store undiluted (in aliquots) at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
RefSeq:	<a href="#">NP_005338</a>
Locus ID:	3309
UniProt ID:	<a href="#">P11021</a>
Cytogenetics:	9q33.3
Synonyms:	78 kDa glucose-regulated protein, Heat shock 70 kDa protein 5, BiP



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**Summary:**

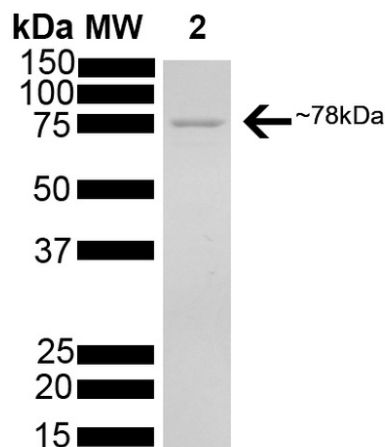
The protein encoded by this gene is a member of the heat shock protein 70 (HSP70) family. This protein localizes to the lumen of the endoplasmic reticulum (ER) where it operates as a typical HSP70 chaperone involved in the folding and assembly of proteins in the ER and is a master regulator of ER homeostasis. During cellular stress, as during viral infection or tumorigenesis, this protein interacts with the transmembrane stress sensor proteins PERK (protein kinase R-like endoplasmic reticulum kinase), IRE1 (inositol-requiring kinase 1), and ATF6 (activating transcription factor 6) where it acts as a repressor of the unfolded protein response (UPR) and also plays a role in cellular apoptosis and senescence. Elevated expression and atypical translocation of this protein to the cell surface has been reported in viral infections and some types of cancer cells. At the cell surface this protein may facilitate viral attachment and entry to host cells. This gene is a therapeutic target for the treatment of coronavirus diseases and chemoresistant cancers. [provided by RefSeq, Jul 2020]

**Protein Families:****Western Blot Control.****ATPase activity.**

This protein has ATPase activity at the time of manufacture of 2.3  $\mu\text{M}$  Phosphate liberated/hr/ $\mu\text{g}$  protein in a 200  $\mu\text{l}$  reaction at 37°C (pH 8) in the presence of 20  $\mu\text{l}$  of 1mM ATP using Malachite Green Assay.

**Binding Assay.****ELISA reference standard.****Protein Pathways:**

Antigen processing and presentation, Prion diseases

**Product images:**

SDS-PAGE of 78kDa Grp78 (Bip) protein (AR03021PU).