

Grp78 (Bip) Active Protein | HSPA5 active protein

Recombinant Human GRP78 (Bip)

CATALOG # AAA17807	HOST Human	APPLICATIONS Western Blot, ELISA
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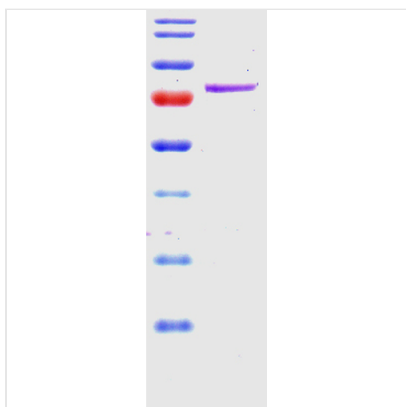
PRODUCT SYNONYMS

Grp78 (Bip); Recombinant Human GRP78 (Bip); BIP; Grp78; HspA5; MIF2; immunoglobulin heavy chain binding protein; HSPA5 active protein

PRODUCT SPECIFICATIONS

Host	Human
Purity/Purification	Affinity Purified
Form/Format	50mM Tris/HCl, pH7.5, 150mM NaCl, 10% glycerol.
Concentration	- 2 mg/mL (varies by lot)
Applicable Applications for HSPA5 active protein	ATPase Assay, WB (Western Blot), Binding Assay, ELISA
Expression System	E Coli
Certificate of Analysis	This product has been certified >90% pure using SDS-PAGE analysis. The protein shows ATPase activity using a Malachite Green assay.
Conjugate Tag	His tag
Cellular location	Endoplasmic reiculum lumen, Melanosome
Preparation and Storage	Store at -20°C for 1 year. Avoid freeze/ thaw cycles.

IMAGES



SDS-PAGE

SDS-PAGE of 78 kDa Grp78 (BiP) protein (AAA17807)

ADDITIONAL INFORMATION

Related Product Information for HSPA5 active protein	Background Info: GRP78 is a ubiquitously expressed, 78-kDa glucose-regulated protein, and is commonly referred to as an immunoglobulin chain binding protein (BiP). The BiP proteins are categorized as stress response proteins because they play an important role in the proper folding and assembly of nascent protein and in the scavenging of misfolded proteins in the endoplasmic reticulum lumen. Translation of BiP is directed by an internal ribosomal entry site (IRES) in the 5' non-translated region of the BiP mRNA. BiP IRES activity increases when cells are heat stressed. GRP78 is also critical for maintenance of cell homeostasis and the prevention of apoptosis. Luo et al. have provided findings that suggest GRP78 is essential for embryonic cell growth and pluripotent cell survival. In terms of diseases, GRP78 has been shown to be a reliable biomarker of hypoglycemia (Barnes), to serve a neuroprotective function in neurons exposed to glutamate and oxidative stress, and its protein levels are reduced in the brains of Alzheimer's patients. Also, the induction of the GRP78 protein that results in severe glucose and oxygen deprivation could possibly lead to drug resistance to anti-tumor drugs.
Product Categories/Family for HSPA5 active protein	Chaperones ; Heat Shock ; Organelle Markers ; Trafficking
References	1. Cho, S. et al (2007). Mol Cell Biol 27(1): 368-83. 2. Yang, Y. et al. (1998) J Biol Chem 273:25552-25555. 3. Luo, S. et al (2006) 26 (15): 5688-97. 4. Yu, Z. et al. (1999) Exp Neurol. 15: 302-314. 5. Koomagi, R. et al. (1999) Anticancer Res. 19: 4333-4336. 6. Laquerre, S. et al. (1998) J. Virology 72: 4940-4949. 7. Dong, D. et al. (2005) Cancer Res 65(13): 5785-91. 1. Zwang, N.A. et al. (2009). Identification of Phosphorylation-Dependent Binding Partners of Aquaporin-2 Using Protein Mass Spectrometry. J. Proteome Res. 8 (3), 1540-1554. doi: 10.1021/pr800894p 2. Speth C. et al. (2013). Neutrophils Turn Plasma Proteins into Weapons against HIV-1. PLoS ONE 8(6): e66073. doi:10.1371/journal.pone.0066073 3. Ciplys, E., Au Ynait, A., Slibinskas, R. (2014). Generation of human ER chaperone BiP in yeast Saccharomyces cerevisiae. Microb Cell Fact. 13(1):22. doi: 10.1186/1475-2859-13-22

NCBI AND UNIPROT INFORMATION

NCBI GI #	16507237
NCBI GeneID	3309
NCBI Accession #	NP_005338.1
NCBI GenBank Nucleotide #	NM_005347
UniProt Accession #	P11021 ; Q2EF78 ; Q9NPF1 ; Q9UK02 ; B0QZ61
Molecular Weight	~78 KD
NCBI Official Full Name	78 kDa glucose-regulated protein
NCBI Official Synonym Full Names	heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa)
NCBI Official Symbol	HSPA5
NCBI Official Synonym Symbols	BIP; MIF2; GRP78; HEL-S-89n
NCBI Protein Information	78 kDa glucose-regulated protein; immunoglobulin heavy chain-binding protein; epididymis secretory sperm binding protein Li 89n; endoplasmic reticulum luminal Ca(2+)-binding protein grp78
UniProt Protein Name	78 kDa glucose-regulated protein
UniProt Gene Name	HSPA5
UniProt Synonym Gene Names	GRP78; GRP-78; BiP
UniProt Entry Name	GRP78_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.