

Datasheet for ABIN1686682
GRP78 Protein (His tag)

3 Publications

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Overview

Quantity:	100 µg
Target:	GRP78 (HSPA5)
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This GRP78 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Functional Studies (Func), Activity Assay (AcA)

Product Details

Sequence: MKLSLVAAML LLLSAARAE EDKKEDVGT V GIDLGTTYS CVGVFKNGRV EIIANDQG NR
ITPSYVAFTP EGERLIGDAA KNQLTSNPEN TVFDAKRLIG RTWNDPSVQQ DIKFLPFKVV
EKKTKPYIQV DIGGGQTKTF APEEISAMVL TKMKETA EAY LGKKVTHAVV TVPAYFNDAQ
RQATKDAGTI AGLNVMRIIN EPTAAAIAYG LDKREGEKNI LVFDLGGGTF DVSLLTIDNG
VFEVVATNGD THLGGEDFDQ RVMEHFIKLY KKKTGKDVRK DNRAVQKLRR EVEKAKRALS
SQHQARIEIE SFYEGEDFSE TLTRAKFEEL NMDLFRSTMK PVQKVLESD LKKS DIDEIV
LVGGSTRIPK IQQLVKEFFN GKEPSRGINP DEAVAYGAAV QAGVLSGDQD TGDVLVLLDVC
PLTLGIETVG GVMTKLIPRN TVVPTKKSQI FSTASDNQPT VTIKVYEGER PLTKDNHLLG
TFDLTGIPPA PRGVPQIEVT FEIDVNGILR VTAEDKGTGN KKNKITINDQ NRLTPEEIER
MVND AEKFAE EDKKLKERID TRNELESYAY SLKNQIGDKE KLGGKLSSSED KETMEKAVEE
KIEWLESHQD ADIEDFKAKK KELEEIVQPI ISKLYGSAGP PPTGEEDTAE KDEL

Specificity: ~78 kDa

Product Details

Characteristics:	The protein has ATPase activity at the time of manufacture of 2.3 μ M phosphate liberated/hr/ μ g protein in a 200 μ L reaction at 37 °C (pH 8) in the presence of 20 μ L of 1 mM ATP using a Malachite Green assay.
Purification:	Affinity Purified
Purity:	>90%
Biological Activity Comment:	ATPase active

Target Details

Target:	GRP78 (HSPA5)
Alternative Name:	Grp78 (Bip) (HSPA5 Products)
Background:	<p>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 (1). GRP78 is also critical for maintenance of cell homeostasis and the prevention of apoptosis (2). Luo et al. have provided findings that suggest GRP78 is essential for embryonic cell growth and pluripotent cell survival (3). 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 (4), and its protein levels are reduced in the brains of Alzheimer's patients (5). Also, the induction of the GRP78 protein that results in severe glucose and oxygen deprivation could possible lead to drug resistance to anti-tumor drugs (6, 7).</p>
Molecular Weight:	approx. 78 kDa
Gene ID:	3309
NCBI Accession:	NM_005347
UniProt:	P11021
Pathways:	Thyroid Hormone Synthesis , ER-Nucleus Signaling

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
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Application Details

Comment: This product has been certified >90% pure using SDS-PAGE analysis. The protein has ATPase activity at the time of manufacture of 2.3µM phosphate liberated/hr/µg protein in a 200µl reaction at 37°C (pH 8) in the presence of 20ul of 1mM ATP using a Malachite Green assay.

Restrictions: For Research Use only

Handling

Concentration: Lot specific

Buffer: 50 mM Tris, 150 mM NaCl, 10 % glycerol

Storage: -20 °C

Publications

Product cited in: Margarucci, Monti, Cassiano, Mozzicafreddo, Angeletti, Riccio, Tosco, Casapullo: "Chemical proteomics-driven discovery of oleocanthal as an Hsp90 inhibitor." in: **Chemical communications (Cambridge, England)**, Vol. 49, Issue 52, pp. 5844-6, (2013) ([PubMed](#)).