Datasheet for ABIN7126018

GRP78 Protein (full length) (rho-1D4 tag)

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Overview

Quantity:	0.5 mg
Target:	GRP78 (HSPA5)
Protein Characteristics:	full length
Origin:	CHO cells
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This GRP78 protein is labelled with rho-1D4 tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA, Functional Studies (Func), Crystallization (Crys)

Product Details

Sequence:	MKFPMVAAAL LLLCAVRAEE EDKKEDVGTV VGIDLGTTYS CVGVFKNGRV EIIANDQGNR ITPSYVAFTP EGERLIGDAA KNQLTSNPEN TVFDAKRLIG RTWNDPSVQQ DIKFLPFKVV EKKTKPYIQV DIGGGQTKTF APEEISAMVL TKMKETAEAY LGKKVTHAVV TVPAYFNDAQ RQATKDAGTI AGLNVMRIIN EPTAAAIAYG LDKREGEKNI LVFDLGGGTF DVSLLTIDNG VFEVVATNGD THLGGEDFDQ RVMEHFIKLY KKKTGKDVRK DNRAVQKLRR EVEKAKRALS SQHQARIEIE SFFEGEDFSE TLTRAKFEEL NMDLFRSTMK PVQKVLEDSD LKKSDIDEIV LVGGSTRIPK IQQLVKEFFN GKEPSRGINP DEAVAYGAAV QAGVLSGDQD TGDLVLLDVC PLTLGIETVG GVMTKLIPRN TVVPTKKSQI FSTASDNQPT VTIKVYEGER PLTKDNHLLG TFDLTGIPPA PRGVPQIEVT FEIDVNGILR VTAEDKGTGN KNKITITNDQ NRLTPEEIER MVNDAEKFAE EDKKLKERID TRNELESYAY SLKNQIGDKE KLGGKLSSED KETMEKAVEE KIEWLESHQD ADIEDFKAKK KELEEIVQPI ISKLYGSAGP PPTGEEDTSE KDEL **Sequence without tag. The location of the tag depends on protein. You may also submit your**

Product Details

	preference when ordering.
Characteristics:	• Made in Germany - from design to production - by highly experienced protein experts. • CHO Endoplasmic reticulum chaperone BiP (78 kDa glucose-regulated protein) (GRP-78) Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a custom-made protein and will be made for the first time for your order. This protein will be produced on the basis of on a Custom Service Project. We will make sure that every step in the production is successful from the design of the expression plasmid to the expression and purification of the final protein. Our experts in the lab will ensure that you receive a correctly folded protein. The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer. The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.
Purification:	Three step purification of proteins expressed in baculovirus infected SF9 insect cells: 1. Membrane proteins are fractioned by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot. 2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot. 3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Endotoxins have not been removed. Please contact us if you require an endotoxin-free version of this product.
Grade:	Crystallography grade
Biological Activity Comment:	Protein has not been tested for activity yet.

Target Details

Target:	GRP78 (HSPA5)

Target Details

Alternative Name:	Endoplasmic reticulum chaperone BiP (78 kDa glucose-regulated protein) (GRP-78) (HSPA5 Products)
Background:	Endoplasmic reticulum chaperone that plays a key role in protein folding and quality control in the endoplasmic reticulum lumen (By similarity). Involved in the correct folding of proteins and degradation of misfolded proteins via its interaction with DNAJC10/ERdj5, probably to facilitate the release of DNAJC10/ERdj5 from its substrate (By similarity). Acts as a key repressor of the ERN1/IRE1-mediated unfolded protein response (UPR) (PubMed:29198525). In the unstressed endoplasmic reticulum, recruited by DNAJB9/ERdj4 to the luminal region of ERN1/IRE1, leading to disrupt the dimerization of ERN1/IRE1, thereby inactivating ERN1/IRE1 (PubMed:29198525). Accumulation of misfolded protein in the endoplasmic reticulum causes release of HSPA5/BiP from ERN1/IRE1, allowing homodimerization and subsequent activation of ERN1/IRE1 (PubMed:29198525). Plays an auxiliary role in post-translational transport of small presecretory proteins across endoplasmic reticulum (ER). May function as an allosteric modulator for SEC61 channel-forming translocon complex, likely cooperating with SEC62 to enable the productive insertion of these precursors into SEC61 channel. Appears to specifically regulate translocation of precursors having inhibitory residues in their mature region that weaken channel gating. May also play a role in apoptosis and cell proliferation (By similarity). {ECO:0000250|UniProtKB:P11021, ECO:0000250|UniProtKB:P20029, ECO:0000269|PubMed:29198525}.
UniProt:	G3I8R9
Pathways:	Thyroid Hormone Synthesis, ER-Nucleus Signaling

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	150 mM NaCL, 20 mM NaH2PO4 pH 7.4, 10 % glycerol. Note: Isoelectric point of protein taken into account regarding pH .
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C

Handling

Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)