

Datasheet for ABIN1686670
HSP70 Protein (His tag)



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Overview

Quantity:	100 µg
Target:	HSP70
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This HSP70 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), Functional Studies (Func), Activity Assay (AcA), ELISA

Product Details

Sequence: MAKAAAIGID LGTTYSCVGV FQHGKVEIIA NDQGNRTTPS YVAFDTERL IGDAAKNQVA
LNPQNTVFDA KRLIGRKFGD PVVQSDMKHW PFQVINDGDK PKVQVSYKGE TKAFYPEEIS
SMVLTKMKEI AEAYLGYPT NAVITVPAYF NDSQRQATKD AGVIAGLNVL RIINEPTAAA
IAYGLDRTGK GERNVLIFDL GGGTFDVSIL TIDDGIFEVK ATAGDTHLGG EDFDNRLVNH
FVEEFKRKHK KDISQNKRAV RRLRTACERA KRTLSSSTQA SLEIDSLFEG IDFYTSITRA
RFEELCSDLF RSTLEPVEKA LRDAKLDKAQ IHDVLVVGGS TRIPKVQKLL QDFFNGRDLN
KSINPDEAVA YGAAVQAAIL MGDKSENVQD LLLLDVAPLS LGLETAGGVM TALIKRNSTI
PTKQTQIFTT YSDNQPGVLI QVYEGERAMT KDNLLGRFE LSGIPPAPRG VPQIEVTFDI
DANGILNVTA TDKSTGKANK ITITNDKGRL SKEEIERMVQ EAEKYKAED VQRERSAKN
ALESYAFNMK SAVEDEGLKG KISEADKKKV LDKCQEVISW LDANTLAEKD EFEHKRKELE
QVCNPIISGL YQGAGGPGPG GFGAQGPKGG SGSGPTIEEV D

Specificity: ~70 kDa

Product Details

Characteristics:	The protein has ATPase activity at the time of manufacture of 3.3 μ M phosphate liberated/hr/ μ g protein in a 200 μ L reaction at 37 °C (pH 7.5) 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:	HSP70
Alternative Name:	Hsp70 (HSP70 Products)
Background:	<p>HSP70 genes encode abundant heat-inducible 70- kDa HSPs (HSP70s). In most eukaryotes HSP70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 50 % identity (2). The N-terminal two thirds of HSP70s are more conserved than the C-terminal third. HSP70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides (3). When HSC70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44 kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half (4). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (5). All HSP70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the HSP70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein (6). The universal ability of HSP70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport. Looking for more information on HSP70? Visit our new HSP70 Scientific Resource Guide at http://www.HSP70.com.</p>
Molecular Weight:	approx. 70 kDa
Gene ID:	3303
NCBI Accession:	NM_005345

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	This product has been certified >90% pure using SDS-PAGE analysis. The protein has ATPase activity at the time of manufacture of 3.3µM phosphate liberated/hr/µg protein in a 200µl reaction at 37°C (pH7.5) in the presence of 20ul of 1mM ATP using a Malachite Green assay.
Restrictions:	For Research Use only

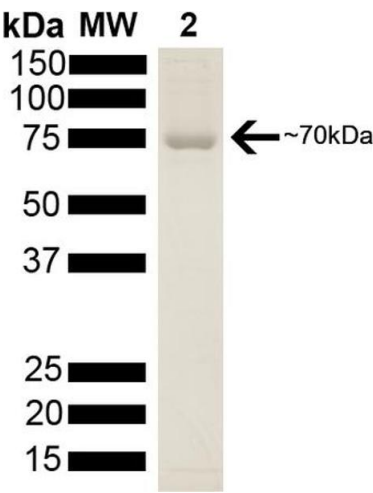
Handling

Concentration:	Lot specific
Buffer:	Na-Phosphate, pH 7.5 (20 mM), 150 mM NaCl, 10 % glycerol, 200 mM Imidazole
Storage:	-20 °C

Publications

Product cited in:	<p>Chanoux, Robay, Shubin, Kebler, Suaud, Rubenstein: "Hsp70 promotes epithelial sodium channel functional expression by increasing its association with coat complex II and its exit from endoplasmic reticulum." in: The Journal of biological chemistry, Vol. 287, Issue 23, pp. 19255-65, (2012) (PubMed).</p> <p>Sorci, Giovannini, Riuzzi, Bonifazi, Zelante, Zagarella, Bistoni, Donato, Romani: "The danger signal S100B integrates pathogen- and danger-sensing pathways to restrain inflammation." in: PLoS pathogens, Vol. 7, Issue 3, pp. e1001315, (2011) (PubMed).</p> <p>Ireland, Williams: "Measuring Hsp72 (HSPA1A) by indirect sandwich ELISA." in: Methods in molecular biology (Clifton, N.J.), Vol. 787, pp. 145-53, (2011) (PubMed).</p> <p>Fernandez-Funez, Casas-Tinto, Zhang, Gómez-Velazquez, Morales-Garza, Cepeda-Nieto, Castilla, Soto, Rincon-Limas: "In vivo generation of neurotoxic prion protein: role for hsp70 in accumulation of misfolded isoforms." in: PLoS genetics, Vol. 5, Issue 6, pp. e1000507, (2009) (PubMed).</p> <p>Ishibashi, Kato, Asahi, Sugita, Nishikawa: "Identification of the major allergen of Malassezia globosa relevant for atopic dermatitis." in: Journal of dermatological science, Vol. 55, Issue 3, pp. 185-92, (2009) (PubMed).</p>
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There are more publications referencing this product on: [Product page](#)



SDS-PAGE			
Image	1.	SDS-PAGE of 70 kDa Hsp70 protein (ABIN1686669, ABIN1686670 and ABIN1686671).	