Datasheet for ABIN1686688

HSP70 Protein (His tag)

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Overview

Quantity:	100 µg
Target:	HSP70
Origin:	Human
Source:	Baculovirus infected Insect Cells
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 YVAFTDTERL IGDAAKNQVA LNPQNTVFDA KRLIGRKFGD PVVQSDMKHW PFQVINDGDK PKVQVSYKGE TKAFYPEEIS SMVLTKMKEI AEAYLGYPVT NAVITVPAYF NDSQRQATKD AGVIAGLNVL RIINEPTAAA IAYGLDRTGK GERNVLIFDL GGGTFDVSIL TIDDGIFEVK ATAGDTHLGG EDFDNRLVNH FVEEFKRKHK KDISQNKRAV RRLRTACERA KRTLSSSTQA SLEIDSLFEG IDFYTSITRA RFEELCSDLF RSTLEPVEKA LRDAKLDKAQ IHDLVLVGGS TRIPKVQKLL QDFFNGRDLN KSINPDEAVA YGAAVQAAIL MGDKSENVQD LLLLDVAPLS LGLETAGGVM TALIKRNSTI PTKQTQIFTT YSDNQPGVLI QVYEGERAMT KDNNLLGRFE LSGIPPAPRG VPQIEVTFDI DANGILNVTA TDKSTGKANK ITITNDKGRL SKEEIERMVQ EAEKYKAEDE VQRERVSAKN ALESYAFNMK SAVEDEGLKG KISEADKKKV LDKCQEVISW LDANTLAEKD EFEHKRKELE QVCNPIISGL YQGAGGPGPG GFGAQGPKGG SGSGPTIEEV D
Specificity:	~70 kDa

Product Details

Characteristics:	The protein tested positive for ATPase activity using a Malachite Green assay.
Purification:	Affinity Purified | Endotoxin-free
Purity:	>90%
Biological Activity Comment:	ATPase active

Target Details

Target:	HSP70
Alternative Name:	Hsp70 (HSP70 Products)
Background:	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.
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 tested positive for ATPase activity using a Malachite Green assay.
Restrictions:	For Research Use only

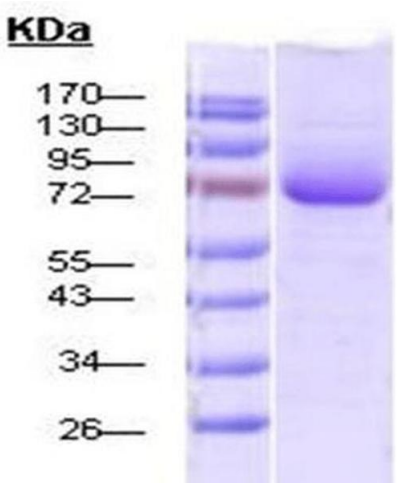
Handling

Concentration:	Lot specific
Buffer:	20 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).

Images



SDS-PAGE

Image 1. SDS-Page of endotoxin-free his-tagged 70 kDa human Hsp70 protein (ABIN1686687, ABIN1686688 and ABIN1686689).