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Datasheet for ABIN1686670
HSP70 Protein (His tag)

1 Image

6 Publications

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 AGVIAGLNLV RIINEPTAAA
 IAYGLDRTGK GERNVLIFDL GGGTFDVSIL TIDDGIFEVK ATAGDTHLGG EDFDNRLVNH
 FVEEFKRKHK KDISQNKRAV RRLRTACERA KRTLSSSTQA SLEIDSLFEG IDFYTSITRA
 RFEELCSDLF RSTLEPVEKA LRDAKLDKAQ IHDLVLVGGG TRIPKVQKLL QDFFNGRDNL
 KSINPDEAVA YGAAVQAAIL MGDKSENVQD LLLLDVAPLS LGLETAGGVM TALIKRNSTI
 PTKQTQIFTT YSDNQPGVLI QVYEGERAMT KDNLLGRFE LSGIPPAPRG VPQIEVTFDI
 DANGILNVTA TDKSTGKANK ITITNDKGRL SKEEIERMVQ EAEKYKAEDE VQRERVSANK
 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 μM phosphate liberated/hr/ μg protein in a 200 μL reaction at 37 $^{\circ}\text{C}$ (pH 7.5) in the presence of 20 μL 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 3.3 μ M phosphate liberated/hr/ μ g protein in a 200 μ l 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

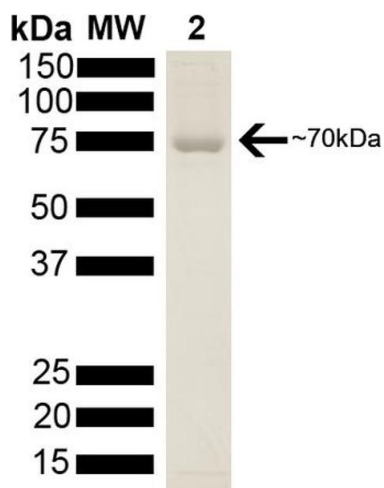
Concentration:	Lot specific
Buffer:	Na-Phosphate, pH 7.5 (20 mM), 150 mM NaCl, 10 % glycerol, 200 mM Imidazole
Storage:	-20 °C

Publications

Product cited in: Kaiser, Steptoe, Thompson, Henderson: "Monocyte cytokine synthesis in response to extracellular cell stress proteins suggests these proteins exhibit network behaviour." in: **Cell stress & chaperones**, Vol. 19, Issue 1, pp. 135-44, (2013) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

Images



SDS-PAGE

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