Datasheet for ABIN1686679

Hsc70 Protein (His tag)

6 Publications

Go to Product page

Overview

Quantity:	100 µg
Target:	Hsc70 (HSPA8)
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This Hsc70 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Functional Studies (Func), Activity Assay (AcA)

Product Details

Specificity:	~70 kDa
Characteristics:	The protein has ATPase activity at the time of manufacture of 3.2 µM phosphate liberated/hr/µg protein in a 200 µL reaction at 37 °C (pH 8) 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:	Hsc70 (HSPA8)

Target Details

Alternative Name:	Hsc70 (HSPA8 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). When cells are subjected to metabolic stress (e.g., heat shock) a member of the HSP 70 family, HSP 70 (HSP72), is expressed, HSP 70 is highly related to HSC70 (>90 % sequence identity). Constitutively expressed HSC70 rapidly forms a stable complex with the highly inducible HSP70 in cells following heat shock. The interaction of HSC70 with HSP 70 is regulated by ATP. These two heat shock proteins move together in the cell experiencing stress. Furthermore, research on HSC70 has implicates it with a role in facilitating the recovery of centrosomal structure and function after heat shock (6).
Molecular Weight:	approx. 70 kDa
Gene ID:	3312
UniProt:	P11142

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 3.2µM 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

Handling

Buffer:	50 mM Tris/HCl, pH 8, 0.3M NaCl
Storage:	-20 °C

Publications

Product cited in:

Liu, Vielhauer, Holzbeierlein, Zhao, Ghosh, Brown, Lee, Blagg: "KU675, a Concomitant Heat-Shock Protein Inhibitor of Hsp90 and Hsc70 that Manifests Isoform Selectivity for Hsp90α in Prostate Cancer Cells." in: **Molecular pharmacology**, Vol. 88, Issue 1, pp. 121-30, (2015) (PubMed).

Kimura, Yoshikura, Koumura, Hayashi, Kobayashi, Kobayashi, Yano, Inuzuka: "Identification of target antigens of naturally occurring autoantibodies in cerebrospinal fluid." in: **Journal of proteomics**, (2015) (PubMed).

Ravindran, Bagchi, Inoue, Tsai: "A Non-enveloped Virus Hijacks Host Disaggregation Machinery to Translocate across the Endoplasmic Reticulum Membrane." in: **PLoS pathogens**, Vol. 11, Issue 8, pp. e1005086, (2015) (PubMed).

Fujiwara, Furuta, Kikuchi, Aizawa, Hatanaka, Konya, Uchida, Yoshimura, Tamai, Wada, Kabuta: " Discovery of a novel type of autophagy targeting RNA." in: **Autophagy**, Vol. 9, Issue 3, pp. 403-9, (2013) (PubMed).

Takino, Kobayashi, Takeuchi: "The formation of intracellular glyceraldehyde-derived advanced glycation end-products and cytotoxicity." in: **Journal of gastroenterology**, Vol. 45, Issue 6, pp. 646-55, (2010) (PubMed).

There are more publications referencing this product on: Product page