Datasheet for ABIN361706

anti-HSP70/HSC70 antibody

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Overview

Quantity:	200 µg
Target:	HSP70/HSC70 (HSC70-4)
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This HSP70/HSC70 antibody is un-conjugated
Application:	Western Blotting (WB), Immunoprecipitation (IP), Immunohistochemistry (IHC), Flow Cytometry (FACS), Immunoelectron Microscopy (IEM), Immunocytochemistry (ICC), Immunofluorescence (IF)

Product Details

Immunogen:	Recombinant HSP70/HSC70
Clone:	N27F3-4
Isotype:	IgG1
Specificity:	Detects ~72 (HSP) and ~73 kDa (HSC).
Cross-Reactivity:	Beluga, C. elegans, Chicken, Cow, Dog, Drosophila melanogaster, Fish, Guinea Pig, Hamster, Human, Monkey, Mouse, Pig, Plant, Rabbit, Rat, Sheep, Xenopus laevis
Purification:	Protein G Purified

Target Details

Target:	HSP70/HSC70 (HSC70-4)

Target Details

Alternative Name:	HSP70/HSC70 (HSC70-4 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. For more information visit our HSP70 Scientific Resource Guide at http://www.HSP70.com.
Gene ID:	3303
NCBI Accession:	NP_005336
UniProt:	P0DMV8, P0DMV9

Application Details

Application Notes:	• WB (1:1000) • IHC (1:100) • ICC/IF (1:50) • optimal dilutions for assays should be determined by the user.
Comment:	1 µg/ml of ABIN361705 was sufficient for detection of HSP70/HSC70 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Application Details

Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 mg/mL
Buffer:	PBS pH 7.2, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	-20°C

Publications

Product cited in:

Wang, Kojima, Mobley, West: "Proteomic analysis of urinary extracellular vesicles reveal biomarkers for neurologic disease." in: **EBioMedicine**, Vol. 45, pp. 351-361, (2019) (PubMed).

Preusse-Prange, Modrow, Schwark, von Wurmb-Schwark: "Detection of constitutive and inducible HSP70 proteins in formalin fixed human brain tissue." in: **Forensic science international**, Vol. 235, pp. 62-7, (2014) (PubMed).

Morshed, Ma, Latif, Davies: "How one TSH receptor antibody induces thyrocyte proliferation while another induces apoptosis." in: **Journal of autoimmunity**, Vol. 47, pp. 17-24, (2013) (PubMed).

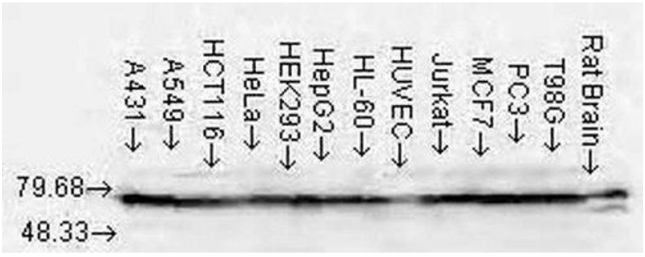
Sun, Prince, Manjarrez, Scroggins, Matts: "Characterization of the interaction of Aha1 with components of the Hsp90 chaperone machine and client proteins." in: **Biochimica et biophysica acta**, Vol. 1823, Issue 6, pp. 1092-101, (2012) (PubMed).

Modrow, Preusse-Prange, Meyer, Harder, Schwark, von Wurmb-Schwark: "Highly reliable quantification of proteins such as members of the HSP70 superfamily based on the grey scale index via immune detection stained bands on a Western blot." in: **Forensic science international**, Vol. 222, Issue 1-3, pp. 256-8, (2012) (PubMed).

Publications

There are more publications referencing this product on: Product page

Images



Western Blotting

Image 1. Western Blot analysis of Human Cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone N27F3-4 (ABIN361705 and ABIN361706). Load: 15 µg. Block: 1.5 % BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (ABIN361705 and ABIN361706) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

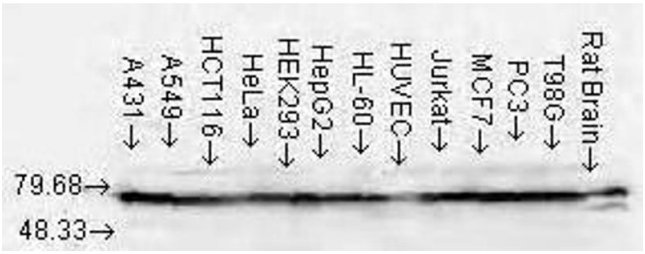
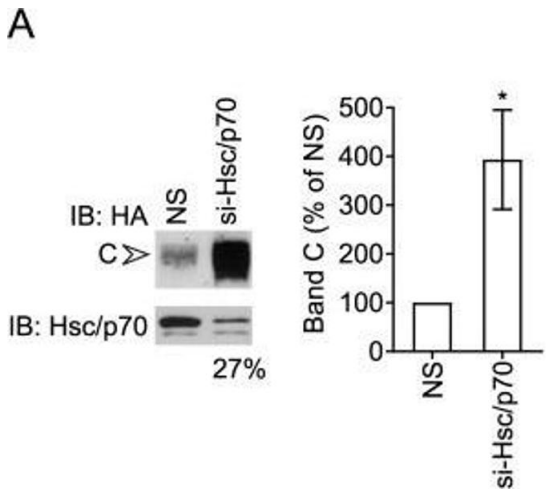


Image 2. Hsp70 (N27), cell lines.



Western Blotting

Image 3. Hsc70/Hsp70 suppresses levels of mature CFTR.(A) Immunoblot (IB) of CFTR-3HA stably expressed in HeLa cells and transfected with siRNA against Hsc70 and Hsp70 (si-Hsc/p70) or non-silencing (NS) siRNA. Mature complex-glycosylated band C and immature core-glycosylated band B forms of CFTR are marked. Knockdown of Hsc70/Hsp70 was monitored by immunoblot and quantified as percentage of non-silencing control. Quantitation of band C is shown relative to amounts in non-silencing control, n = 3. (B) Pulse-chase autoradiograph of CFTR-3HA in HeLa cells treated as in (A). Knockdown of

Hsc70/Hsp70 was monitored by immunoblot and quantified as percentage of non-silencing control. Quantitations of bands B and C are shown relative to initial amounts of band B, n = 5. (C) Immunoblot of HEK293 cells transfected with CFTR-3HA and Flag-Hsp70 or vector control. Expression of Flag-Hsp70 was detected by immunoblot. Quantitation of bands B and C are shown relative to vector control, n = 3. (D) Pulse-chase autoradiograph of CFTR-3HA in HEK293 cells treated as in (C). Expression of Flag-Hsp70 was monitored by immunoblot. Quantitations of bands B and C are shown, n = 6. Error bars show standard deviation from the mean, * p<0.05, ** p<0.01, *** p<0.001. - figure provided by CiteAb. Source: PMID31408507

Please check the product details page for more images. Overall 5 images are available for ABIN361706.