

Mouse Hsp70/Hsc70 Monoclonal Antibody | anti-HSPA2 antibody

Hsp70/Hsc70 Antibody: Biotin

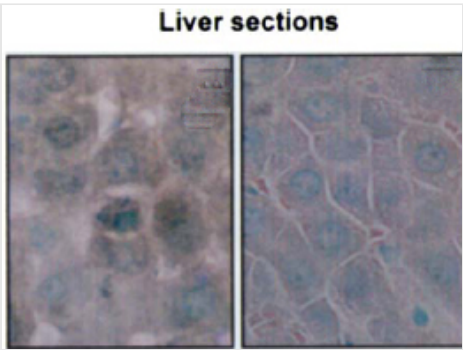
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA17780	Mouse	Human, Mouse, Rat, Sheep, Dog, Beluga, Bovine, Fish, Guinea pig, Scallop pig, Hamster, Rabbit, Chicken, Xenopus, Drosophila, Yeast	Western Blot, Immunoprecipitation, Immunohistochemistry

PRODUCT SYNONYMS

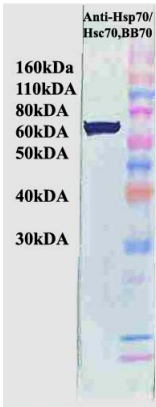
Hsp70/Hsc70; Monoclonal Antibody; Hsp70/Hsc70 Antibody: Biotin; HSC54; Hsc70; HSC71; Hsp70 1; Hsp701/Hsp70 2; Hsp70.1; Hsp71; Hsp72; Hsp73; HSPA1; HSPA10; HSPA1A; HSPA1B; LAP1; NIP71; anti-HSPA2 antibody

PRODUCT SPECIFICATIONS

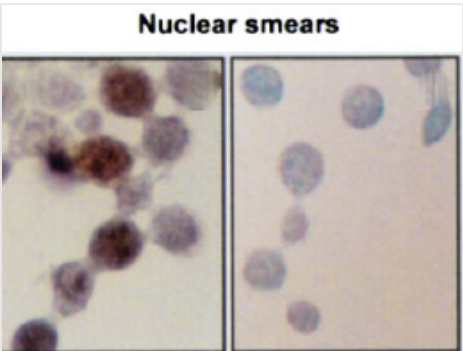
Host	Mouse
Reactivity	Human, Mouse, Rat, Sheep, Dog, Beluga, Bovine, Fish, Guinea pig, Scallop pig, Hamster, Rabbit, Chicken, Xenopus, Drosophila, Yeast
Clonality	Monoclonal
Isotype	IgG2a
Clone Number	BB70
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	634
Applicable Applications for anti-HSPA2 antibody	WB (Western Blot), IP (Immunoprecipitation), IHC (Immunohistochemistry)
Application Notes	1ug/ml was sufficient for detection of hsp70/Hsc70 in 20ug of HeLa lysate.
Conjugate	Biotin
Storage Buffer	PBS pH7.2, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C



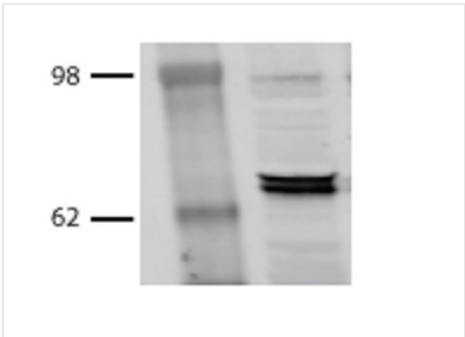
IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: hepatocytes. Species: Rat. Fixation: Paraffin Embedded. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:200. Liver sections were paraffin embedded. First pictures in series show two hours after exposure to stress, the second shows the control. Courtesy of: G. Matic, University of Belgrade, Serbia.



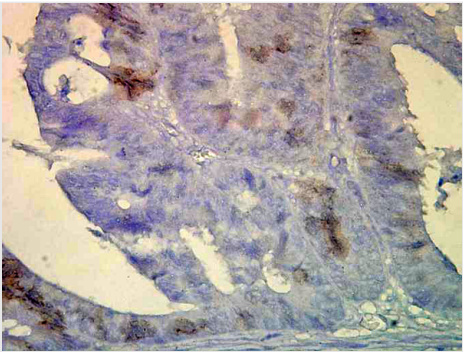
WB (Western Blot)
Western Blot analysis of Human Cervical cancer cell line (HeLa) lysate showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000. Secondary Antibody: HRP Goat Anti-Rat.



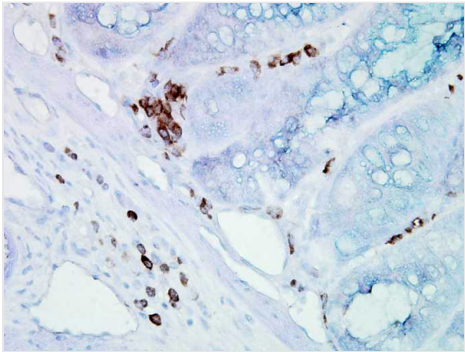
ICC (Immunocytochemistry)
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: hepatocyte nuclei. Species: Rat. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:200. Liver sections were paraffin embedded. First pictures in series show two hours after exposure to stress, the second shows the control. Courtesy of: G. Matic, University of Belgrade, Serbia.



WB (Western Blot)
Western Blot analysis of Bovine MDBK cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:10000 for 12 hours at 4 degree C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 ul for 2 minutes at RT. Localization: Inflammatory cells. Magnification: 40x. HSP70/HSC70 cells stained brown.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone BB70. Tissue: inflamed colon. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:10000 for 12 hours at 4 degree C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 ul for 2 minutes at RT. Localization: Inflammatory cells. Magnification: 40x. Inflammatory cells. HSP70/HSC70 stained brown.

ADDITIONAL INFORMATION

Related Product Information for anti-HSPA2 antibody	Background Info: Detects ~72 and ~73kDa proteins corresponding to the molecular mass of inducible Hsp and Hsc on SDS PAGE immunoblots. Scientific 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.
Product Categories/Family for anti-HSPA2 antibody	Chaperones; Heat Shock; Trafficking
References	1. Zho J. (1998) Cell 94 : 471-480. 2. Boorstein W. R., Ziegelhoffer T. & Craig E. A. (1993) J. Mol. Evol.38 (1): 1-17. 3. Rothman J. (1989) Cell 59: 591 -601. 4. DeLuca-Flaherty et al. (1990) Cell 62: 875-887. 5. Bork P., Sander C. & Valencia A. (1992) Proc. Nutl Acad. Sci. USA 89: 7290-7294. 6. Fink A.L. (1999) Physiol. Rev. 79: 425-449. 7. Smith D.F., et al, (1993) Mol. Cell. Biol. 13(2): 869- 876. 8. Prapapanich V., et al. (1996) Mol. Cell. Biol. 16(11): 6200-6207. 9. Fernandez-Funez et al., (2000) Nature 408(6808): 101- 106. 1. Rodina, A. et al. (2013). Identification of an Allosteric Pocket on Human Hsp70 Reveals a Mode of Inhibition of This Therapeutically Important Protein. Cell Chemistry & Biology. doi: 10.1016/j.chembiol.2013.10.008 2. Kang, Y. et al. (2014). Heat Shock Protein 70 Inhibitors. 1. 2,5'-Thiodipyrimidine and 5-(Phenylthio)pyrimidine Acrylamides as Irreversible Binders to an Allosteric Site on Heat Shock Protein 70. J Med Chem. doi.org/10.1021/jm401551n 3. Taldone, T. et al. (2014). Heat Shock Protein 70 Inhibitors. 2. 2,5'-Thiodipyrimidines, 5-(Phenylthio)pyrimidines, 2-(Pyridin-3-ylthio)pyrimidines, and 3-(Phenylthio)pyridines as Reversible Binders to an Allosteric Site on Heat Shock Protein 70. J Med Chem. doi.org/10.1021/jm401552y 4. Rodina, A. et al. (2014). Affinity Purification Probes of Potential Use To Investigate the Endogenous Hsp70 Interactome in Cancer. ACS Chem Biol. doi.org/10.1021/cb500256u

NCBI AND UNIPROT INFORMATION

NCBI GI #	55742654
NCBI GeneID	423504
NCBI Accession #	NP_001006686.1
NCBI GenBank Nucleotide #	NM_001006685.1
UniProt Accession #	P08106
Molecular Weight	69,751 Da
NCBI Official Full Name	heat shock 70 kDa protein
NCBI Official Synonym Full Names	heat shock 70kDa protein 2
NCBI Official Symbol	HSPA2
NCBI Official Synonym Symbols	HSP70
NCBI Protein Information	heat shock 70 kDa protein; heat shock protein 70; dnaK-type molecular chaperone
UniProt Protein Name	Heat shock 70 kDa protein

UniProt Gene Name	HSP70
UniProt Synonym Gene Names	HSP70
UniProt Entry Name	HSP70_CHICK

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/monoclonal/hsp70-hsc70-antibody-clone-bb70-western-blot-immunoprecipitation-immunohistochemistry-elisa/17780>