Mouse Hsp70 Monoclonal Antibody | anti-HSPA1A antibody

Hsp70 Antibody: Biotin

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103081	**Mouse**	**Human, Mouse, Rat, Amphibian, Chicken, Fish, Saccharomyces cerevisiae, Fruit Fly**	**Western Blot, Immunoprecipitation, Immunohistochemistry, Immunocytochemistry**

PRODUCT SYNONYMS

Hsp70; Monoclonal Antibody; Hsp70 Antibody: Biotin; Hsp70 1; Hsp70 2; Hsp70.1; Hsp72; Hsp73; HSPA1; HSPA1A; HSPA1B; anti-HSPA1A antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human, Mouse, Rat, Amphibian, Chicken, Fish, Saccharomyces cerevisiae, Fruit Fly
Clonality	Monoclonal
Isotype	IgG1
Clone Number	3A3
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	641
Applicable Applications for anti-HSPA1A antibody	WB (Western Blot), IP (Immunoprecipitation), IHC (Immunohistochemistry), ICC (Immunocytochemistry)
Conjugate	Biotin
Storage Buffer	PBS pH7.2, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

IMAGES



WB (Western Blot)
Western Blot analysis of Rat cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone 3A3. Load: 15 ug. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



WB (Western Blot)
Western Blot analysis of Artemia franciscanna (brine shrimp) cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone 3A3. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000. Courtesy of: Alison King.

ADDITIONAL INFORMATION

Related Product Information for anti-HSPA1A antibody	**Background Info:** Detects several members of the heat shock protein 70kDa gene family including Hsp70, Hsc70, p75 and following heat shock, Hsp72 from yeast, Drosophila, fish, mouse, avian, amphibian and human samples. **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 5O% identity (1). 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 (2). 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 (3). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (4). 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 (5). 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-HSPA1A antibody	Chaperones; Heat Shock; Trafficking
References	1. Balashova N. et al. (2005) J Biol Chem 280:2186-96. 2. Boorstein W. R., Ziegelhoffer T. & Craig E. A. (1993) J. Mol. Evol.38 (1): 1-17. 2. Rothman J. (1989) Cell 59: 591 -601. 3. DeLuca-Flaherty et al. (1990) Cell 62: 875-887. 4. Bork P., Sander C. & Valencia A. (1992) Proc. Nut1 Acad. Sci. USA 89: 7290-7294. 5. Fink A.L. (1999) Physiol. Rev. 79: 425-449. 1. Paciello, I. et al. (2013). Intracellular Shigella remodels its LPS to dampen the innate immune recognition and evade inflammasome activation. PNAS Early Addition: 1-10. doi/10.1073/pnas.1303641110

NCBI AND UNIPROT INFORMATION

NCBI GI #	194248072
NCBI GeneID	3303
NCBI Accession #	NP_005336.3
NCBI GenBank Nucleotide #	NM_005345.5
UniProt Accession #	P08107; P19790; Q5JQI4; Q5SP17; Q9UQL9; Q9UQM0; B4E3B6
Molecular Weight	63,937 Da
NCBI Official Full Name	heat shock 70 kDa protein 1A/1B
NCBI Official Synonym Full Names	heat shock 70kDa protein 1A
NCBI Official Symbol	HSPA1A
NCBI Official Synonym Symbols	HSP72; HSPA1; HSP70I; HSP70-1; HSP70-1A; HEL-S-103
NCBI Protein Information	heat shock 70 kDa protein 1A/1B; HSP70-1/HSP70-2; heat shock 70kD protein 1A; heat shock-induced protein; heat shock 70 kDa protein 1/2; epididymis secretory protein Li 103; dnaK-type molecular chaperone HSP70-1
UniProt Protein Name	Heat shock 70 kDa protein 1A/1B
UniProt Gene Name	**HSPA1A**
UniProt Synonym Gene Names	HSPA1; HSX70 **HSPA1B**; HSP70-1/HSP70-2; HSP70.1/HSP70.2
UniProt Entry Name	HSP71_HUMAN

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://stage.aaabiotech.com/monoclonal/hsp70-antibody-clone-3a3-western-blot-immunoprecipitation-immunohistochemistry-immunocytochemistry-elisa/103081