

Mouse HSP70 Monoclonal Antibody | anti-HSP70 antibody

HSP70 Antibody, Clone 1H11: ATTO 594

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103908	Mouse	Human; Mouse; Rat; Bovine; Pig	Flow Cytometry, Functional Assay, Immunofluorescence, Immunocytochemistry, Western Blot

PRODUCT SYNONYMS

HSP70; Monoclonal Antibody; HSP70 Antibody; Clone 1H11: ATTO 594; Mouse Anti-Human Cell Membrane HSP70 Monoclonal IgG1; HSP70 Antibody: ATTO 594; HSP70 1 Antibody; HSP70 2 Antibody; HSP70.1 Antibody; HSP72 Antibody; HSPA1 Antibody; HSPA1A Antibody; HSPA1B Antibody; anti-HSP70 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human; Mouse; Rat; Bovine; Pig
Clonality	Monoclonal
Isotype	IgG1
Clone Number	1H11
Specificity	Binds to cell surface HSP70 without permeabilization of cell membrane in tumor cell lines. Does not bind to intracellular HSP70 at low concentrations. Detects a ~70 kDa band in Western Blot.
Purity/Purification	Protein G Purified
Concentration	1 mg/ml (varies by lot)
Sequence Length	641
Applicable Applications for anti-HSP70 antibody	FCM/FACS (Flow Cytometry), IF (Immunofluorescence), ICC (Immunocytochemistry), WB (Western Blot)
Target	HSP70
Immunogen	Human native HSP70 protein
Immunogen Species	Human
Cellular Localization	Cell membrane
Conjugate	ATTO 594
Storage Buffer	PBS pH 7.4, 50% glycerol, 0.09% Sodium Azide
Tissue Specificity	Induced by heat shock.
PubMed ID	27925208
Preparation and Storage	Store at -20 degree C.

IMAGES



IF (Immunofluorescence)

Fluorescence-activated cell sorting analysis using Mouse Anti-HSP70 Monoclonal Antibody, Clone 1H11. Tissue: Jurkat E6.1 cells. Species: Human. Fixation: No fixation. Primary Antibody: Mouse Anti-HSP70 Monoclonal Antibody at 20 ug/ml for 40 min at 4 degree C. Counterstain: Propidium iodide nuclear stain at 2.5 ug/ml for 5 min at RT. Isotype Control: Anti-mouse FITC at 1:32 for 15 min at RT (blue line). Courtesy of: Dr. Elyse Ireland, Institute of Medicine, University of Chester.



ICC (Immunocytochemistry)

Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HSP70 Monoclonal Antibody, Clone 1H11. Tissue: HCT116 cells. Species: Human. Fixation: 4% Formaldehyde. Primary Antibody: Mouse Anti-HSP70 Monoclonal Antibody at 1:100. Counterstain: Wheat germ agglutinin Texas red membrane marker; DAPI (blue) nuclear stain. Localization: Cell surface, cell membrane. (A) DAPI nuclear stain. (B) Wheat germ agglutinin Texas red. (C) HSP70 Antibody. (D) Composite. Courtesy of: Lawrence Hightower, Charles Giardina, and Didem Ozcan from University of Connecticut.

ADDITIONAL INFORMATION

Related Product Information for anti-HSP70 antibody	<p>HSP70 is a highly conserved protein that is ubiquitously expressed. It can be found in chloroplasts, eukaryotic cytosol, endoplasmic reticulum, and mitochondria, but also embedded in the cell membrane and in the extracellular space (1,2,3,4). Even though HSP70 is one of the most studied heat shock proteins, the export mechanism and method of membrane insertion are not fully understood. The majority of the proteins in the heat shock family lack a consensus signal for secretion via the ER-Golgi pathway (5). Researchers have found that HSP70 may be released from cells via exosomes or secretory vesicles (6).</p> <p>Although HSP70 is ubiquitously expressed, there is not much information about its presence on cell surface. The finding that HSP70 is localized on the cell surface of cancer cells but not normal cells suggests a conformational change of HSP70 in the lower pH environment characteristic of cancer cells (7). The presence of cell membrane embedded HSP70 has been found to increase the stability of cancer cells, thereby protecting tumors from environmental stress (8, 9).</p> <p>Anti-HSP70 antibody, clone 1H11 is unique from other commercially available antibodies in that it can bind to the extracellular region of the cell membrane embedded HSP70 protein, allowing researchers to differentiate between membrane bound and intracellular HSP70 across cancer cells types.</p>
Product Categories/Family for anti-HSP70 antibody	Antibodies; Cell Signaling; Protein Trafficking; Chaperone Proteins; Cancer; Tumor Biomarkers; Heat Shock
References	1. Gribaldo, S. et al. (1999) J. Bacteriol. 181, 434-443. 2. Sharma, D. & Masison, D.C. (2009) Protein Pept. Lett. 16, 571-581. 3. Sharma, D. et al. (2009) PLoS. ONE.4, e6644. 4. Kampinga, H.H. & Craig, E.A. (2010) Nat. Rev. Mol. Cell Biol. 11, 579-592. 5. Nickel, W. & Seedorf, M. (2008) Annu. Rev. Cell Dev. Biol. 24, 287-308. 6. Multhoff, G. & Hightower, L.E. (1996) Cell Stress. Chaperones. 1, 167-176. 7. De Maio, A. (2011) Cell Stress. Chaperones. 16, 235-249. 8. Horvath, I. & Vigh, L. (2010) Nature. 463, 436-438. 9. Horvath, I., Multhoff, G., Sonnleitner, A., & Vigh, L. (2008) Biochim. Biophys. Acta 1778, 1653-1664.

NCBI AND UNIPROT INFORMATION

NCBI GI #	194248072
NCBI GeneID	3303
NCBI Accession #	NP_005336.3
NCBI GenBank Nucleotide #	NM_005345.5
UniProt Accession #	P0DMV8; P08107; P19790; Q5JQI4; Q5SP17; Q9UQL9; Q9UQM0; B4E3B6
Molecular Weight	63,937 Da
NCBI Official Full Name	heat shock 70 kDa protein 1A
NCBI Official Synonym Full Names	heat shock protein family A (Hsp70) member 1A
NCBI Official Symbol	HSPA1A
NCBI Official Synonym Symbols	HSP72; HSPA1; HSP70I; HSP70-1; HSP70.1; HSP70-1A; HEL-S-103
NCBI Protein Information	heat shock 70 kDa protein 1A

UniProt Protein Name	Heat shock 70 kDa protein 1A
UniProt Gene Name	HSPA1A
UniProt Synonym Gene Names	; HSP70.1

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-1h11-flow-cytometry-immunofluorescence-immunocytochemistry-western-blot-elisa/103908>