Mouse HSP60 Monoclonal Antibody | anti-HSPD1 antibody

Hsp60 Antibody: ATTO 488

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA103277	**Mouse**	**Human, Mouse, Rat, Bovine, Canine, Chicken, Drosophila, Guinea Pig, Hamster, Monkey, Pig, Rabbit, Sheep, Xenopus, Soybean**	**Immunohistochemistry, Flow Cytometry, Functional Assay, ELISA, Immunoprecipitation, Western Blot**

PRODUCT SYNONYMS

HSP60; Monoclonal Antibody; Hsp60 Antibody: ATTO 488; CPN60; GROEL; HLD4; Hsp 60; Hsp65; HSPD1; HuCHA60; SPG 13; anti-HSPD1 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human, Mouse, Rat, Bovine, Canine, Chicken, Drosophila, Guinea Pig, Hamster, Monkey, Pig, Rabbit, Sheep, Xenopus, Soybean
Clonality	Monoclonal
Isotype	IgG1
Clone Number	LK1
Form/Format	Protein G Purified
Concentration	1mg/mL (varies by lot)
Sequence Length	573
Applicable Applications for anti-HSPD1 antibody	IHC (Immunohistochemistry), FCM/FACS (Flow Cytometry), ELISA, IP (Immunoprecipitation), WB (Western Blot)
Conjugate	ATTO 488
Storage Buffer	PBS, 50% glycerol, 0.09% sodium azide
Preparation and Storage	-20 degree C

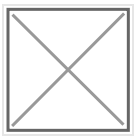
IMAGES



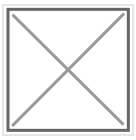
ICC (Immunocytochemistry)
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK1,. Tissue: skin Fibroblasts. Species: Human. Fixation: Cold 100% methanol for 30 minutes at -20 degree C . Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody at 1:1000 for 1 hour at RT. Secondary Antibody: DAKO LSAB2 streptavidin-peroxidase system. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain. Left: control; Right: 24 hours after 7th passage of senescence. Courtesy of: Valentina di Felice, University of Palermo, Italy.



IHC (Immunohistochemistry)
Immunohistochemistry analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1. Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Epidermis.



WB (Western Blot)
Western Blot analysis of Human Cell line lysates showing detection of Hsp60 protein using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1. Load: 15 ug. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



IHC (Immunohiostchemistry)
Immunohistochemistry analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1. Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody at 1:100000 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.



ICC (Immunocytochemistry)
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1. Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol at -20 degree C for 10 minutes. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Cytoplasmic Staining.

ADDITIONAL INFORMATION

Related Product Information for anti-HSPD1 antibody	**Background Info:** Detects an ~60kDa protein corresponding to the molecular mass of Hsp60 on SDS PAGE immunoblots. **Scientific Background:** In both prokaryotic and eukaryotic cells, the misfolding and aggregation of proteins during biogenesis and under conditions of cellular stress are prevented by molecular chaperones. Members of the HSP60 family of heat shock proteins are some of the best characterized chaperones. Hsp60, also known as Cpn60 or GroEl, is an abundant protein synthesized constitutively in the cell that is induced to a higher concentration after brief cell shock. It is present in many species and exhibits a remarkable sequence homology among various counterparts in bacteria, plants, and mammals with more than half of the residues identical between bacterial and mammalian Hsp60 (1-3). Whereas mammalian Hsp60 is localized within the mitochondria, plant Hsp60, or otherwise known as Rubisco-binding protein, is located in plant chloroplasts. It has been indicated that these proteins carry out a very important biological function due to the fact that Hsp60 is present in so many different species. The common characteristics of the Hsp60s from the divergent species are i) high abundance, ii) induction with environmental stress such as heat shock, iii) homo-oligomeric structures of either 7 or 14 subunits which reversibly dissociate in the presence of Mg2+ and ATP, iv) ATPase activity and v) a role in folding and assembly of oligomeric protein structures (4). These similarities are supported by recent studies where the single-ring human mitochondrial homolog, Hsp60 with its co-chaperonin, Hsp10 were expressed in a E. coli strain, engineered so that the groE operon is under strict regulatory control. This study has demonstrated that expression of Hsp60-Hsp10 was able to carry out all essential in vivo functions of GroEL and its co-chaperonin, GroES (5). Another important function of Hsp60 and Hsp10 is their protective functions against infection and cellular stress. Hsp60 has however been linked to a number of autoimmune diseases, as well as Alzheimer's, coronary artery diseases, MS, and diabetes (6-9).
Product Categories/Family for anti-HSPD1 antibody	Chaperones; Heat Shock; Trafficking

References	1. Hartl, F.U. (1996) Nature 381: 571-579. 2. Bukau, B. and Horwich, A.L. (1998) Cell 92: 351-366. 3. Hartl, F.U. and Hayer-Hartl, M. (2002) Science 295: 1852- 1858. 4. Jindal, S., et al. (1989) Molecular and Cellular Biology 9: 2279-2283. 5. La Verda, D., et al (1999) Infect Dis. Obstet. Gynecol. 7: 64-71. 6. Itoh, H. et al. (2002) Eur. J. Biochem. 269: 5931-5938. 7. Gupta, S. and Knowlton, A.A. J. Cell Mol Med. 9: 51-58. 8. Deocaris, C.C. et al. (2006) Cell Stress Chaperones 11: 116-128. 9. Lai, H.C. et al. (2007) Am. J. Physiol. Endocrinol. Metab. 292: E292-E297. 10. Gao, Y.L., et al (1995) J. of Immunology 154: 3548-3556. 11. Neuer, A., et al (1997) European Society for Human Reproduction and Embryology 12(5):925-929. 12. Bason, C., et al (2003) Lancet 362(9400): 1971-1977. 1. Ahgib, N. and Komatsu, S. (2009). Comparative analyses of the proteomes of leaves and flowers at various stages of development reveal organ-specific functional differentiation of proteins in soybean. Proteomes. 9 (21), 4889-4907. doi: 10.1002/pmic.200900308 2. Bayot A. et al. (2010). Identification of novel oxidized protein substrates and physiological partners of the mitochondrial ATP-dependent Lon-like protease Pim1. J Biol Chem. 285 (15), 11445-11457. doi: 10.1074/jbc.M109.065425 3. Ahsan, N., Donnart, T., Nouri, M.Z., and Komatsu, S. (2010). Tissue-specific defense and thermo-adaptive mechanisms of soybean seedlings under heat stress revealed by proteomic approach. J Proteome Res. 9 (8), 4189-4204. doi: 10.1021/pr100504j. 4. Dogan, S. A. et al. (2014). Tissue-Specific Loss of DARS2 Activates Stress Responses Independently of Respiratory Chain Deficiency in the Heart. Cell Metabolism. 19 (3), 458-469. doi.org/10.1016/j.cmet.2014.02.004

NCBI AND UNIPROT INFORMATION

NCBI GI #	31542947
NCBI GeneID	3329
NCBI Accession #	NP_002147.2
NCBI GenBank Nucleotide #	NM_002156.4
UniProt Accession #	P10809; Q38L19; Q9UCR6; B2R5M6
Molecular Weight	61,055 Da
NCBI Official Full Name	60 kDa heat shock protein, mitochondrial
NCBI Official Synonym Full Names	heat shock 60kDa protein 1 (chaperonin)
NCBI Official Symbol	HSPD1
NCBI Official Synonym Symbols	HLD4; CPN60; GROEL; HSP60; HSP65; SPG13; HSP-60; HuCHA60
NCBI Protein Information	60 kDa heat shock protein, mitochondrial; chaperonin 60; 60 kDa chaperonin; heat shock protein 65; P60 lymphocyte protein; mitochondrial matrix protein P1; short heat shock protein 60 Hsp60s1
UniProt Protein Name	60 kDa heat shock protein, mitochondrial
UniProt Gene Name	**HSPD1**
UniProt Synonym Gene Names	HSP60; CPN60; HSP-60; Hsp60
UniProt Entry Name	CH60_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/hsp60-antibody-clone-lk1-immunohistochemistry-flow-cytometry-immunoprecipitation-western-blot-elisa/103277