# Mouse Hsp60 Monoclonal Antibody | anti-HSPD1 antibody

Hsp60 Antibody: RPE

| CATALOG # | HOST | REACTIVITY | APPLICATIONS |
|---|---|---|---|
| **AAA103032** | **Mouse** | **Human, Mouse, Rat, Bovine, Canine, Chicken, Guinea Pig, Hamster, Monkey, Pig, Rabbit, Spinach, E.coli (GroEl), H. pylori, S. typhimurium, T. spiralis, Yeast, White Fly** | **Flow Cytometry, Functional Assay, Immunohistochemistry, Western Blot** |

## PRODUCT SYNONYMS

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

## PRODUCT SPECIFICATIONS

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| **Host** | Mouse |
| **Reactivity** | Human, Mouse, Rat, Bovine, Canine, Chicken, Guinea Pig, Hamster, Monkey, Pig, Rabbit, Spinach, E.coli (GroEl), H. pylori, S. typhimurium, T. spiralis, Yeast, White Fly |
| **Clonality** | Monoclonal |
| **Isotype** | IgG1 |
| **Clone Number** | LK2 |
| **Form/Format** | Protein G Purified |
| **Concentration** | 1mg/mL (varies by lot) |
| **Sequence Length** | 573 |
| **Applicable Applications for anti-HSPD1 antibody** | FCM/FACS (Flow Cytometry), IHC (Immunohistochemistry), WB (Western Blot) |
| **Conjugate** | RPE |
| **Storage Buffer** | PBS, 50% glycerol, 0.09% sodium azide |
| **Preparation and Storage** | -20 degree C |

## IMAGES

**WB (Western Blot)**
Western Blot analysis of Human Heat Shocked cervical cancer cell line (HeLa) lysate showing detection of Hsp60 protein using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-2. 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-2. 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: Cytoplasmic Staining.

**IHC (Immunohistochemistry)**
Immunohistochemistry analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-2. 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.

## ADDITIONAL INFORMATION

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| **Related Product Information for anti-HSPD1 antibody** | **Background Info:** Detects an ~60kDa protein corresponding to the molecular mass of Hsp60 on SDS PAGE immunoblots.<br><br>**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. |

## NCBI AND UNIPROT INFORMATION

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|---|---|
| **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 |

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| **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-lk2-flow-cytometry-immunohistochemistry-western-blot-elisa/103032