

Datasheet for ABIN2481431
anti-HSPD1 antibody (Atto 594)



[Go to Product page](#)

5 Images

Overview

Quantity:	200 µg
Target:	HSPD1
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This HSPD1 antibody is conjugated to Atto 594
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Flow Cytometry (FACS), ELISA, Immunoprecipitation (IP)

Product Details

Immunogen:	Recombinant human HSP60
Clone:	LK1
Isotype:	IgG1
Specificity:	Detects ~60 kDa.
Cross-Reactivity:	Bombyx mori, Chicken, Cow, Dog, Drosophila melanogaster, Guinea Pig, Hamster, Human, Monkey, Mouse, Pig, Plant, Rabbit, Rat, Sheep, Xenopus laevis
Purification:	Protein G Purified

Target Details

Target:	HSPD1
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Target Details

Alternative Name: HSP60 ([HSPD1 Products](#))

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 Mg^{2+} 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).

Gene ID: 3329

NCBI Accession: [NP_002147](#)

UniProt: [P10809](#)

Pathways: [Activation of Innate immune Response](#), [Regulation of Leukocyte Mediated Immunity](#), [Positive Regulation of Immune Effector Process](#), [Production of Molecular Mediator of Immune Response](#), [Positive Regulation of Endopeptidase Activity](#)

Application Details

Application Notes: • WB (1:20000)

Application Details

- IHC (1:100)
- ICC/IF (1:100)
- IP (1:200)
- optimal dilutions for assays should be determined by the user.

Comment: 0.05 µg/ml of ABIN2481431 was sufficient for detection of HSP60 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using goat anti-mouse IgG as the secondary antibody.

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 1 mg/mL

Buffer: PBS, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated

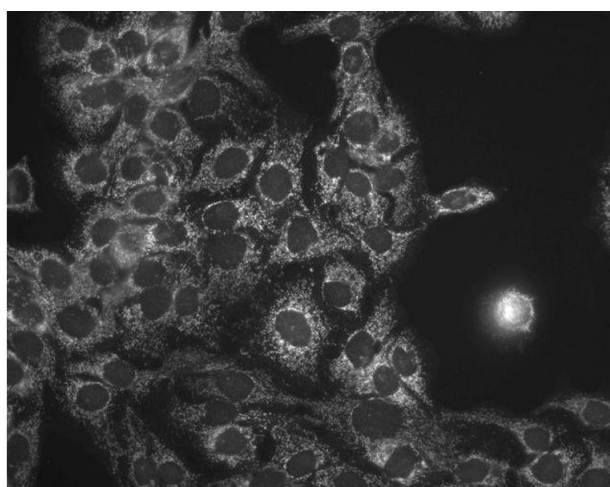
Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

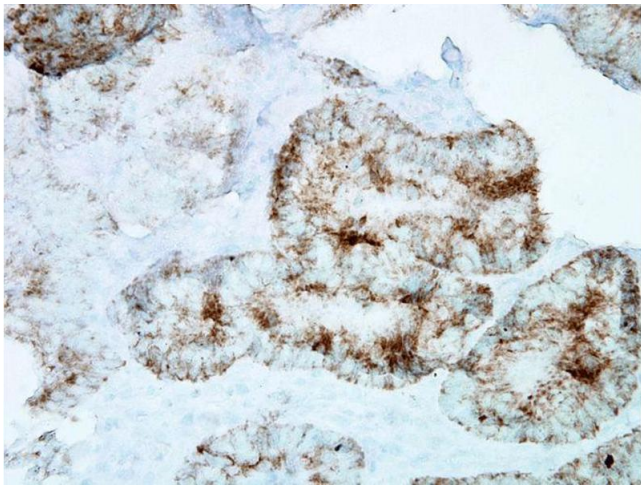
Storage Comment: Conjugated antibodies should be stored at 4°C

Images



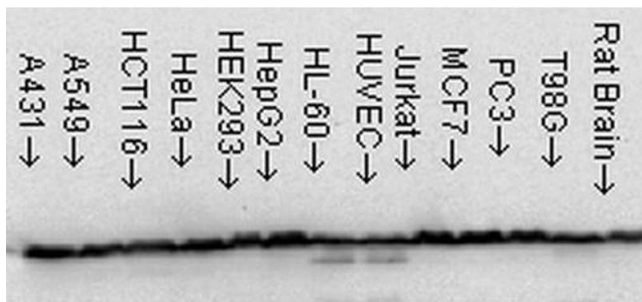
Immunofluorescence (fixed cells)

Image 1. Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1 . Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol at -20°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.



Immunohistochemistry

Image 2. 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°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µl for 2 minutes at RT. Localization: Inflammatory cells. Magnification: 40x.



Western Blotting

Image 3. Western Blot analysis of Human Cell line lysates showing detection of Hsp60 protein using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1 . Load: 15 µg. 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.

Please check the [product details page](#) for more images. Overall 5 images are available for ABIN2481431.