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- Diagnostik & molekulare Diagnostik
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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Anti-HSP60 Antibody [LK1]

Mouse Anti-Human HSP60 Monoclonal IgG1
Catalog No. SMC-110

StressMarq Biosciences INC.
Discovery through partnership | Excellence through quality

Overview

Product Name

HSP60 Antibody

Description

Mouse Anti-Human HSP60 Monoclonal IgG1

Species Reactivity

Dog, Human, Monkey, Mouse, Rat, African clawed frog (Xenopus laevis), Bovine, Chicken, Fruit Fly (Drosophila melanogaster), Guinea Pig (Cavia porcellus), Hamster, Pig, Plant, Rabbit, Sheep, Soybean

Applications

WB, IHC, IP, ELISA, FCM

Antibody Dilution

WB (1:20000), IHC (1:100), ICC/IF (1:100), IP (1:200); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Human

Immunogen

Recombinant human HSP60

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

PBS, 50% glycerol, 0.09% sodium azide

Storage Temperature

-20ºC

Shipping Temperature

Blue Ice or 4ºC

Purification

Protein G Purified

Clonality

Monoclonal

Clone Number

LK1

Isotype

IgG1

Specificity

Detects ~60kDa.

Cite This Product

Mouse Anti-Human HSP60 Monoclonal, Clone LK1 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-110)

Certificate Of Analysis

0.05 µg/ml of SMC-110 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.

Biological Description

Alternative Names

CPN60 Antibody, GROEL Antibody, HLD4 Antibody, HSP 60 Antibody, HSP65 Antibody, HSPD1 Antibody, HuCHA60 Antibody, SPG 13 Antibody

Research Areas

Cancer, Heat Shock

Cellular Localization

Mitochondrion, Mitochondrion Matrix

Accession Number

NP_002147.2

Gene ID

3329

Swiss Prot

P10809

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).

References

1. Hartl, F.U. (1996) Nature 381: 571-579.
2. Bukau, B. and Horwich, A.L. (1998) Cell 92: 351-366.
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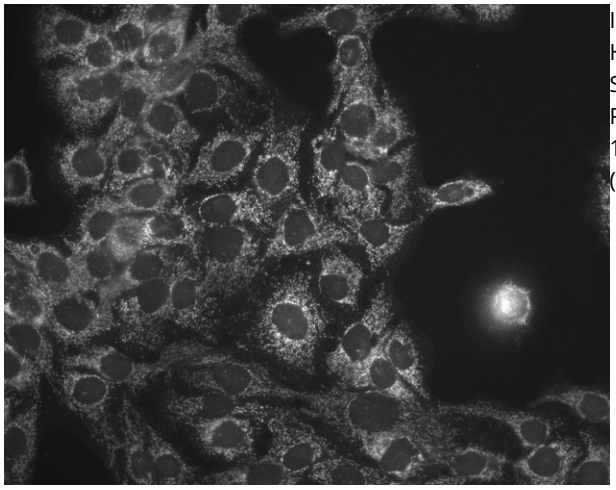
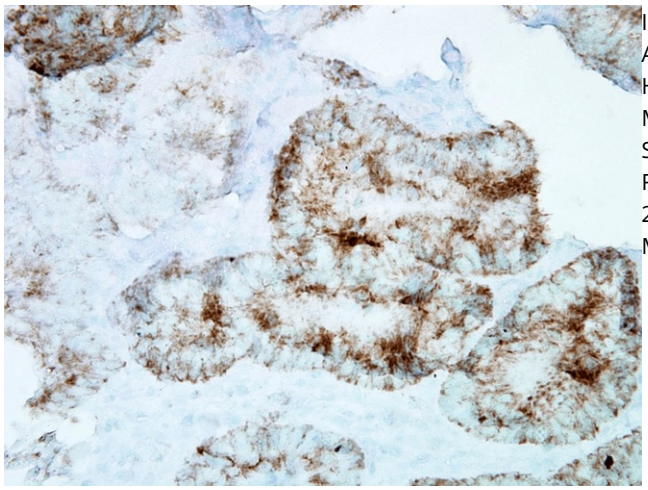
4. Jindal, S., et al. (1989) Molecular and Cellular Biology 9: 2279-2283.
5. La Verda, D., et al (1999) Infect Dis. Obstet. Gynecol. 7: 64-71.
6. Itoh, H. et al. (2002) Eur. J. Biochem. 269: 5931-5938.
7. Gupta, S. and Knowlton, A.A. J. Cell Mol Med. 9: 51-58.
8. Deocaris, C.C. et al. (2006) Cell Stress 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.

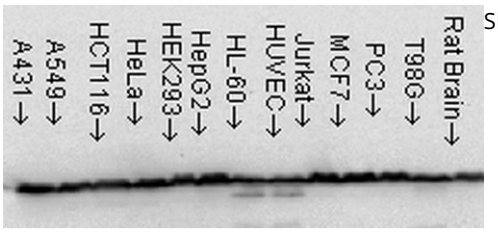
Product Images



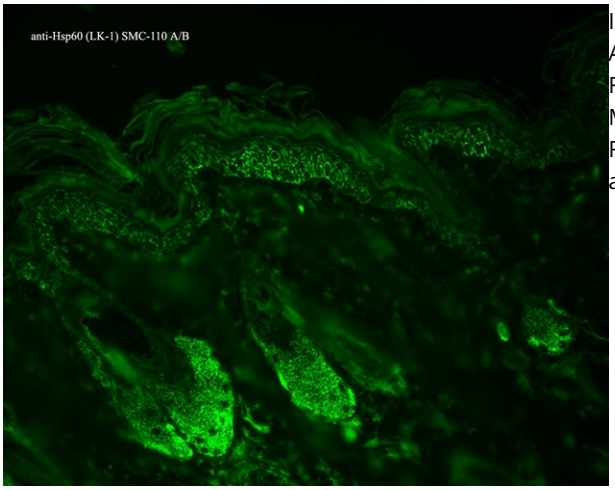
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1 (SMC-110). Tissue: HaCaT cells. Species: Human. Fixation: Cold 100% methanol at -20°C for 10 minutes. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody (SMC-110) at 1:100 for 1 hour at RT. Secondary Antibody: FITC Goat Anti-Mouse (green) at 1:50 for 1 hour at RT. Localization: Cytoplasmic Staining.



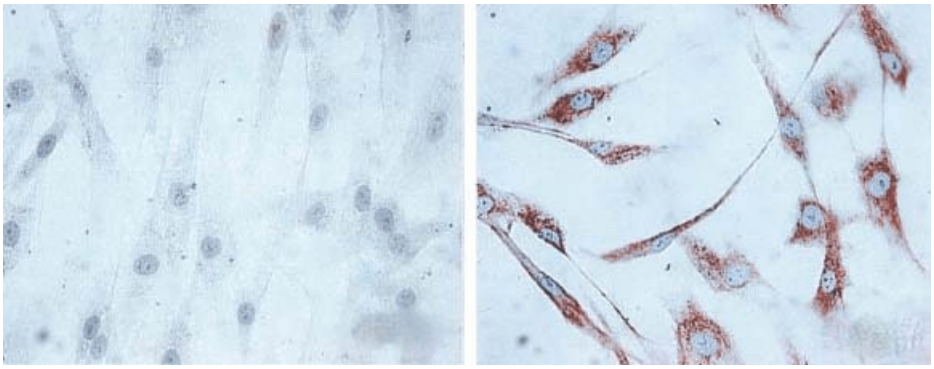
Immunohistochemistry analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1 (SMC-110). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody (SMC-110) at 1:100000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 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 Blot analysis of Human Cell line lysates showing detection of Hsp60 protein using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1 (SMC-110). Load: 15 µg protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody (SMC-110) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



Immunohistochemistry analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK-1 (SMC-110). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody (SMC-110) 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.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp60 Monoclonal Antibody, Clone LK1, (SMC-110). Tissue: skin Fibroblasts. Species: Human. Fixation: Cold 100% methanol for 30 minutes at -20°C . Primary Antibody: Mouse Anti-Hsp60 Monoclonal Antibody (SMC-110) at 1:1000 for 1 hour at RT. Secondary Antibody: DAKO LSAB2 streptavidin-peroxidase system. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain. Courtesy of: Valentina di Felice, University of Palermo, Italy.

Product Citations (4)

Western Blot

The role of caseinolytic mitochondrial matrix peptidase proteolytic subunit (CLPP) in regulation of mitochondrial ribosome biogenesis in mammals.

Maiti, P. (2015) University of Cologne. PhD Dissertation.

PubMed ID: **Reactivity:** Mouse **Applications:** Western Blot

Tissue-Specific Loss of DARS2 Activates Stress Responses Independently of Respiratory Chain Deficiency in the Heart.

Dogan, S. A. et al. (2014) Cell Metabolism. 19 (3): 458-469.

PubMed ID: 24606902 **Reactivity:** Mouse **Applications:** Western Blot

Tissue-specific defense and thermo-adaptive mechanisms of soybean seedlings under heat stress revealed by proteomic approach.

Ahsan, N., Donnart, T., Nouri, M.Z., and Komatsu, S. (2010) J Proteome Res. 9 (8): 4189-4204.

PubMed ID: 20540562 **Reactivity:** Soybean **Applications:** Western Blot

Comparative analyses of the proteomes of leaves and flowers at various stages of development reveal organ-specific functional differentiation of proteins in soybean.

Ahgib, N. and Komatsu, S. (2009) Proteomes. 9 (21): 4889-4907.

PubMed ID: 19862761 **Reactivity:** Soybean **Applications:** Western Blot

Reviews

Based on validation through cited publications.

★★★★★

StressMarq Biosciences
June 14, 2016: