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Anti-HSP25/HSP27 Antibody [8A7]

Mouse Anti-Human HSP25/HSP27 Monoclonal IgG1 Kappa
Catalog No. SMC-114



Discovery through partnership | Excellence through quality

Overview

Product Name

HSP25/HSP27 Antibody

Description

Mouse Anti-Human HSP25/HSP27 Monoclonal IgG1 Kappa

Species Reactivity

Dog, Human, Mouse, Rat, Bovine, Guinea Pig (*Cavia porcellus*), Hamster

Applications

WB, IHC, ICC/IF, IP

Antibody Dilution

WB (1:5000), ICC/IF (1:200), IHC (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Human

Immunogen

HSP27 peptide

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

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Protein G Purified

Clonality

Monoclonal

Clone Number

8A7

Isotype

IgG1 Kappa

Specificity

Detects ~25kDa or ~27kDa. Recognizes HSP25 and HSP27, cross reacts with alpha B crystallin.

Cite This Product

Mouse Anti-Human HSP27 Monoclonal, Clone 8A7 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-114)

Certificate Of Analysis

A 1:5000 dilution of SMC-114 was sufficient for detection of HSP27 in 20 µg of HeLa cell lysate by ECL immunoblot analysis.

Biological Description

Alternative Names

HSPB2 Antibody, Heat shock protein beta-2 Antibody, HSPB2 Antibody, DMPK-binding protein Antibody, MKBP Antibody

Research Areas

Cancer, Heat Shock

Cellular Localization

Cytoplasm, Cytoskeleton, Nucleus, Spindle

Accession Number

NP_001532.1

Gene ID

3315

Swiss Prot

P04792

Scientific Background

HSP25 is the mouse homologue of the human HSP27 protein, a member of the small heat shock protein family comprised of a diverse group of proteins from ~15 to >30kDa(1). The basic structure of most sHSPs is a homologous and highly conserved amino acid sequence, with an α -crystallin-domain at the C-terminus and the WD/EPF domain at the less conserved N-terminus. This N-terminus is essential for the development of high molecular oligomers (2, 3). HSP27-oligomers consist of stable dimers formed by as many as 8-40 HSP27 protein monomers (4). The oligomerization status is connected with the chaperone activity: aggregates of large oligomers have high chaperone activity, whereas dimers have no chaperone activity (5). HSP27 is localized to the cytoplasm of unstressed cells but can redistribute to the nucleus in response to stress, where it may function to stabilize DNA and/or the nuclear membrane. It can be rapidly phosphorylated in response to physiological stimuli relevant to the cell type examined. Thus, HSP27 has been suggested to be an important intermediate in second messenger-mediated signaling pathways (6). Other functions include chaperone activity (as mentioned above), thermo-tolerance in vivo, inhibition of apoptosis, and signal transduction.

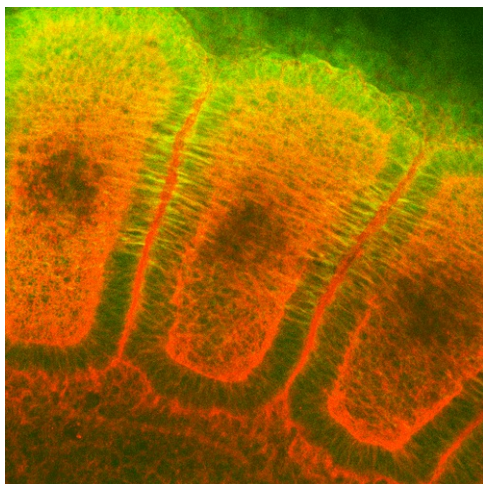
Specifically, in vitro, it acts as an ATP-independent chaperone by inhibiting protein aggregation and by stabilizing partially

denatured proteins, which ensures refolding of the HSP70 complex. HSP27 is also involved in the apoptotic signaling pathway because it interferes with the activation of cytochrome c/Apaf-1/dATP complex, thereby inhibiting the activation of procaspase-9. It is also hypothesized that HSP27 may serve some role in cross-bridge formation between actin and myosin (7). And finally, HSP27 is also thought to be involved in the process of cell differentiation. The up-regulation of HSP27 correlates with the rate of phosphorylation and with an increase of large oligomers. It is possible that HSP27 may play a crucial role in termination of growth (8). Looking for more information on HSP27? Visit our new HSP27 Scientific Resource Guide at <http://www.HSP27.com>.

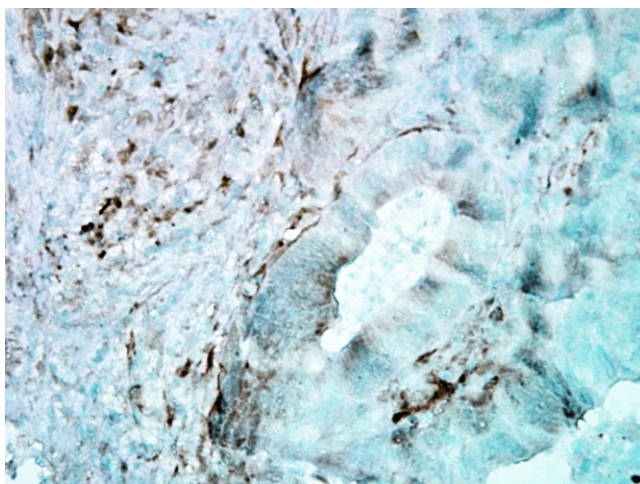
References

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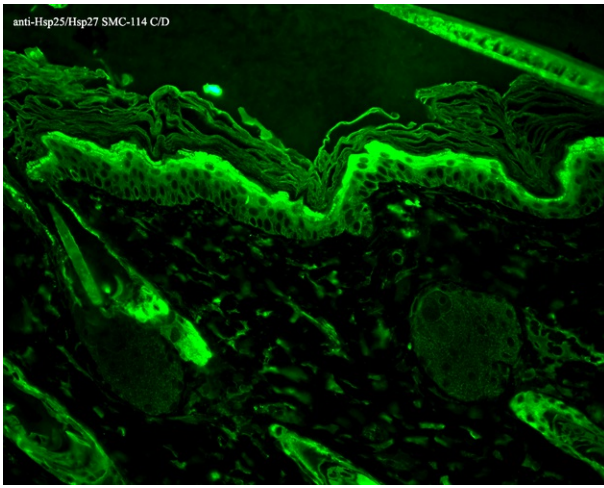
Product Images



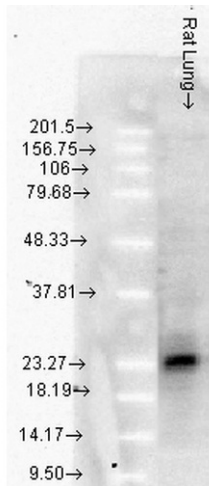
Immunohistochemistry analysis using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 8A7 (SMC-114). Tissue: embryo somites. Species: Rat. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-114) at 1:1000. Secondary Antibody: FITC Goat Anti-Mouse (green). Counterstain: Rhodamine-phalloidin labeled actin (red). Courtesy of: Mike Welsh, Umich.



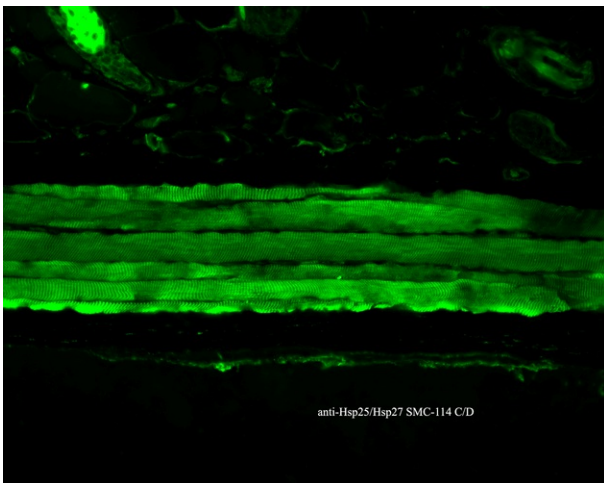
Immunohistochemistry analysis using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 8A7 (SMC-114). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-114) at 1:5000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 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.



Immunohistochemistry analysis using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 8A7 (SMC-114). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-114) 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.



Western Blot analysis of Rat Lung tissue lysates showing detection of Hsp27 protein using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 8A7 (SMC-114). Load: 15 μ g protein. Block: 5% blocking solution. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-114) at 1:1000 for 2 hours at RT. Secondary Antibody: Goat Anti-Mouse: HRP for 1 hour at RT.



Immunohistochemistry analysis using Mouse Anti-Hsp27 Monoclonal Antibody, Clone 8A7 (SMC-114). Tissue: backskin. Species: Mouse. Fixation: Bouin's Fixative and paraffin-embedded. Primary Antibody: Mouse Anti-Hsp27 Monoclonal Antibody (SMC-114) 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.

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.