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Anti-HSP27 (MOUSE) Monoclonal Antibody

HSP27 Antibody
Catalog # ASR4139

Specification

Anti-HSP27 (MOUSE) Monoclonal Antibody - Product Information

Host	**Mouse**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Monoclonal**
Application	**WB, E, I, LCI**
Application Note	**This protein A purified monoclonal antibody against human Hsp27 has been tested for use in immunoblotting and ELISA and is suitable in immunoprecipitation, immunohistochemistry, and immunocytochemistry. The antibody recognizes a 27 kDa band corresponding to hsp27 in cell lysates from breast carcinoma. Both frozen sections and paraffin embedded material can be used for immunocytochemistry and immunohistochemistry.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.5 M Sodium Chloride, pH 7.2**
Immunogen	**This HSP27 monoclonal antibody was produced by repeated immunizations with a prokaryotic recombinant protein corresponding to the full length human hsp27 protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-HSP27 (MOUSE) Monoclonal Antibody - Additional Information

Gene ID 3315

Other Names
3315

Purity
This protein A purified mouse monoclonal antibody reacts specifically with HSP27 in human tissues and cell lines. MCF-7 cells are recommended as a positive control. Cross reactivity with hsp27 from other mammalian sources is likely. No cross reactivity occurs with HSP70, HSP90 or HSP104.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-HSP27 (MOUSE) Monoclonal Antibody - Protein Information

Name HSPB1

Synonyms HSP27, HSP28

Function
Small heat shock protein which functions as a molecular chaperone probably maintaining denatured proteins in a folding- competent state (PubMed:10383393, PubMed:20178975). Plays a role in stress resistance and actin organization (PubMed:19166925). Through its molecular chaperone activity may regulate numerous biological processes including the phosphorylation and the axonal transport of neurofilament proteins (PubMed:23728742).

Cellular Location
Cytoplasm. Nucleus Cytoplasm, cytoskeleton, spindle Note=Cytoplasmic in interphase cells. Colocalizes with mitotic spindles in mitotic cells. Translocates to the nucleus during heat shock and resides in sub-nuclear structures known as SC35 speckles or nuclear splicing speckles.

Tissue Location
Detected in all tissues tested: skeletal muscle, heart, aorta, large intestine, small intestine, stomach, esophagus, bladder, adrenal gland, thyroid, pancreas, testis, adipose tissue, kidney, liver, spleen, cerebral cortex, blood serum and cerebrospinal fluid. Highest levels are found in the heart and in tissues composed of striated and smooth muscle.

Anti-HSP27 (MOUSE) Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-HSP27 (MOUSE) Monoclonal Antibody - Images

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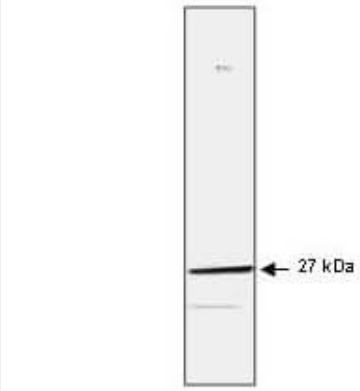

Mab anti-Human HSP27 antibody (clone G3.1) is shown to detect human HSP27 by western blot. Detection occurs after 10 µg of a HeLa whole cell lysate is loaded per lane. The blot was incubated with a 1:1,000 dilution of Mab anti-Human HSP27 at room temperature for 30 min followed by detection using IRDye™800 labeled Goat-a-Mouse IgG [H&L] (610-132-121) diluted 1:5,000. A single band corresponding to human HSP27 is detected at ~27 kDa when compared with known molecular weight standards (not shown). The antibody may be used to detect endogenous human HSP27. IRDye™800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

Anti-HSP27 (MOUSE) Monoclonal Antibody - Background

Heat shock protein (HSP) 27 is one of the small HSPs that are constitutively expressed at different levels in different cell types and tissues (this protein has also been referred to as the Estrogen-Regulated 24 kDa protein, hsp25 and hsp28). Like other small heat shock proteins, HSP27 is regulated at both the transcriptional and post-translational level. In response to stress, the expression level of HSP27 increases several-fold to confer cellular resistance to the adverse environmental change. The common functions of sHsps are chaperone activity, thermotolerance, inhibition of apoptosis, regulation of cell development, and cell differentiation. They also take part in signal transduction. The HSP27 gene has 3 exons. The mouse Hsp25 gene was mapped to chromosome 5 in a region homologous to 7q in the human. They also mapped the mouse Hsp105 gene to chromosome 5 but suggested that the human homolog is probably on 13q, not chromosome 7. HSP27 plays a major role in the increased thermal resistance acquired by cells after exposure to HSP inducers. The level of HSP27 phosphorylation is significantly elevated after exposure of cells to heat shock, sodium arsenite, IL-1 and TNF-a. MAPKAPK2 and MAPKAPK3 are both activated by these conditions and can phosphorylate HSP27 on serine residues Anti-HSP27 Antibody is ideal for investigators involved in Signaling Proteins, Cell Stress & Chaperone Proteins, Cancer, Cellular Stress, and p38 Pathway research.