



Anti-HSP70 Antibody [C92F3A-5]

Mouse Anti-Human HSP70
Monoclonal IgG1
Catalog No. SMC-100



StressMarq
Biosciences INC.

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Product Name	HSP70 Antibody
Description	Mouse Anti-Human HSP70 Monoclonal IgG1
Species Reactivity	Bovine, Carp (Cypriniformes), Chicken, Dog, Fruit Fly (Drosophila melanogaster), Guinea Pig (Cavia porcellus), Hamster, Human, Monkey, Mouse, Nematode (Caenorhabditis elegans), Pig, Rabbit, Rat, Sheep
Applications	WB, IHC, ICC/IF, ELISA, FCM, FACS, IEM, BI, AM
Antibody Dilution	WB (1:1000), IHC (1:10000), ICC/IF (1:1000), FACS (1:1000); optimal dilutions for assays should be determined by the user.
Host Species	Mouse
Immunogen Species	Human
Immunogen	Human HSP70
Concentration	1 mg/ml
Conjugates	APC, ATTO 390, ATTO 488, ATTO 594, Biotin, FITC, HRP, PerCP, RPE, Unconjugated
Field Of Use	Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Buffer	PBS pH7.4, 50% glycerol, 0.1% sodium azide *Storage buffer may change when conjugated
Storage Temperature	-20°C, Conjugated antibodies should be stored according to the product label
Shipping Temperature	Blue Ice or 4°C
Purification	Protein G Purified
Clonality	Monoclonal
Clone Number	C92F3A-5
Isotype	IgG1
Specificity	Detects ~70kDa. Does not cross-react with HSC70 (HSP73).
Cite This Product	HSP70 Antibody (StressMarq Biosciences Victoria, BC CANADA, Catalog# SMC-100, RRID: AB_854199)
Certificate Of Analysis	1 µg/ml of SMC-100 was sufficient for detection of HSP70 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Biological Description

Alternative Names	HSPA1A, HSPA1B, HSPA1, HSP70, HSP70-1, HSP70.1, HSP70-2, HSP72, HSP73, HSX70, Heat shock 70 kDa protein 1A, Heat shock 70 kDa protein 1B
Research Areas	Cancer, Cell Signaling, Chaperone Proteins, Heat Shock, Protein Trafficking, Tumor Biomarkers
Cellular Localization	Cytoplasm
Accession Number	NP_005336.3
Gene ID	3303
Swiss Prot	P0DMV8/P0DMV9
Scientific Background	HSP70 proteins are a highly conserved family of 70-kDa molecular chaperones encoded by a multigene family in most eukaryotes and prokaryotes. Found in nearly all cellular compartments—including the cytosol, nucleus, mitochondria, endoplasmic reticulum, and chloroplasts—HSP70s are

constitutively expressed and strongly upregulated in response to cellular stress.

These chaperones play a vital role in protein homeostasis by binding to nascent polypeptides and partially folded or misfolded proteins, preventing aggregation and facilitating proper folding. HSP70s exhibit high-affinity ATP binding and weak ATPase activity, which is stimulated upon interaction with unfolded substrates. ATP hydrolysis triggers conformational changes that regulate substrate binding and release, enabling dynamic cycles of protein folding and refolding.

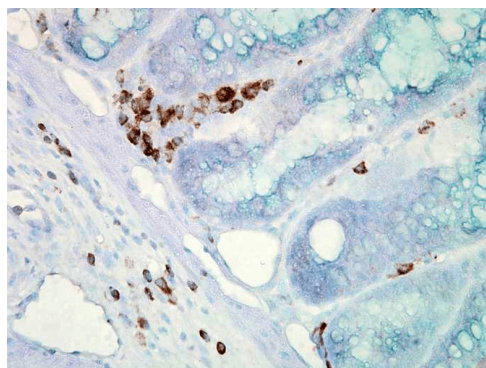
Structurally, the N-terminal domain of HSP70 is responsible for ATP binding, while the C-terminal domain mediates substrate interaction. This modular design allows HSP70s to coordinate with co-chaperones such as HSP40, HIP, HOP, and BAG-1, integrating folding with degradation and transport pathways.

In neurodegenerative disease research, HSP70 is of particular interest due to its ability to counteract protein misfolding and aggregation—hallmark of disorders like Alzheimer's, Parkinson's, and Huntington's disease. By stabilizing toxic intermediates and promoting their clearance, HSP70 enhances neuronal survival and resilience under proteotoxic stress.

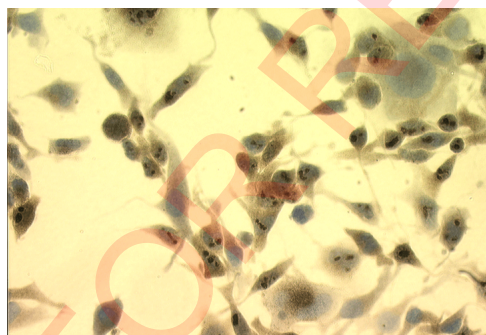
References

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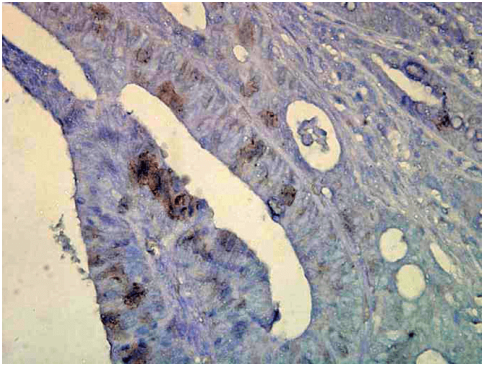
Product Images



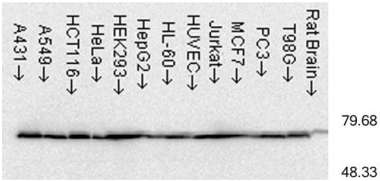
Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92F3A-5 (SMC-100). Tissue: colon carcinoma. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (SMC-100) at 1:10000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse 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. This image was produced using an amplifying IHC wash buffer. The antibody has therefore been diluted more than is recommended for other applications.



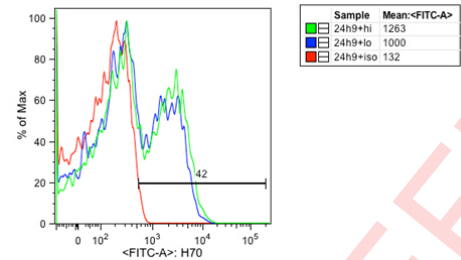
Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92F3A-5 (SMC-100). Tissue: Heat Shocked Melanoma cells. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (SMC-100) at 1:1000 for 16 hours at RT. Secondary Antibody: Biotin Goat Anti-Mouse. Courtesy of: Dr. Ewa Malusecka, Maria Skłodowska-Curie Memorial Cancer Centre and Inst. Of Oncology, Poland.



Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92F3A-5 (SMC-100). Tissue: colon carcinoma. Species: Human. Fixation: Formalin Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (SMC-100) at 1:10000 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. This image was produced using an amplifying IHC wash buffer. The antibody has therefore been diluted more than is recommended for other applications.



Western Blot analysis of Human cell lysates from various cell lines showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92F3A-5 (SMC-100). Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (SMC-100) at 1:1000 for 2 hours at RT. Secondary Antibody Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



Fluorescence Activated Cell Sorting analysis using Mouse Anti-Hsp70: FITC Monoclonal Antibody, Clone C92F3A-5 (SMC-100). Tissue: Heat Shocked CD3+ CD8+ T cells . Species Mouse. Primary Antibody: Mouse Anti-Hsp70: FITC Monoclonal Antibody (SMC-100) at 1:1000. Courtesy of: Cheryl Cameron, Vaccine and Gene Therapy Instit. Florida.