



Anti-HSP70/HSC70 Antibody [N27F3-4]

Mouse Anti-Human HSP70/HSC70
Monoclonal IgG1
Catalog No. SMC-104



StressMarq
Biosciences INC.

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Product Name	HSP70/HSC70 Antibody
Description	Mouse Anti-Human HSP70/HSC70 Monoclonal IgG1
Species Reactivity	African clawed frog (<i>Xenopus laevis</i>), Beluga, Bovine, Chicken, Cucumber, Dog, Fish, Fruit Fly (<i>Drosophila melanogaster</i>), Guinea Pig (<i>Cavia porcellus</i>), Hamster, Human, Monkey, Mouse, Nematode (<i>Caenorhabditis elegans</i>), Pea (<i>Pisum sativum</i>), Pig, Plant, Rabbit, Rat, Sheep
Applications	WB, IHC, ICC/IF, IP, FCM, IEM
Antibody Dilution	WB (1:1000), IHC (1:100), ICC/IF (1:50); optimal dilutions for assays should be determined by the user.
Host Species	Mouse
Immunogen Species	Human
Immunogen	Human Recombinant HSP70/HSC70
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 pH7.2, 50% glycerol, 0.09% 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	N27F3-4
Isotype	IgG1
Specificity	Detects ~72 (HSP) and ~73kDa (HSC).
Cite This Product	HSP70/HSC70 Antibody (StressMarq Biosciences Victoria, BC CANADA, Catalog# SMC-104, RRID: AB_2120301)
Certificate Of Analysis	1 µg/ml of SMC-104 was sufficient for detection of HSP70/HSC70 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, HSPA8, HSP70, HSP70-1, HSP70.1, HSP70-2, HSP72, HSP73, HSC70, HSX70, Heat shock 70 kDa protein 1A, Heat shock 70 kDa protein 1B, Heat shock 70 kDa protein 8, Heat shock cognate 71 kDa protein
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 essential for maintaining protein homeostasis across all domains of

life. In eukaryotes, HSP70 genes form a multigene family, with isoforms localized to the cytosol, nucleus, mitochondria, endoplasmic reticulum, and chloroplasts. These chaperones are either constitutively expressed (HSC70) or stress-inducible (HSP70), and share over 50% sequence identity across species.

Functionally, HSP70s bind ATP with high affinity and exhibit ATPase activity that is stimulated by interaction with unfolded or misfolded proteins. The N-terminal domain mediates ATP binding, while the C-terminal domain is responsible for substrate recognition. This ATP-driven cycle enables HSP70s to bind and release hydrophobic regions of nascent or damaged proteins, preventing aggregation and facilitating proper folding, transport, and assembly.

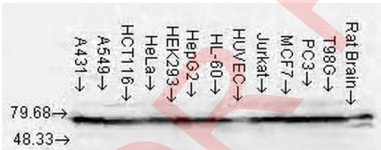
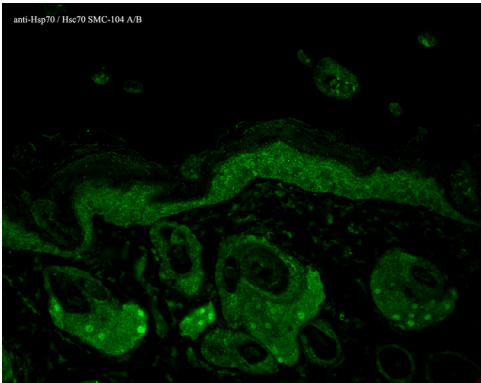
In neuroscience, HSP70 and HSC70 are critical for neuronal survival under proteotoxic stress—conditions commonly associated with neurodegenerative diseases such as Alzheimer's, Parkinson's, and Huntington's disease. These chaperones stabilize misfolded proteins, support autophagic clearance, and modulate apoptotic signaling pathways. Their ability to interact with co-chaperones and degradation machinery further enhances their role in maintaining neuronal proteostasis.

Given their central role in stress response and protein quality control, HSP70/HSC70 are promising therapeutic targets and biomarkers in neurodegeneration research.

References

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Product Images



Western Blot analysis of Human Cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone N27F3-4 (SMC-104). Load: 15 µg. Block 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (SMC-104) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG HRP for 1 hour at RT.