Product Datasheet

HSP70 Antibody: FITC (orb147569)

Description	Mouse monoclonal to Hsp70 (FITC). Hsp70 genes encode abundant heat-inducible 70-kDa hsps (hsp70s). In most eukaryotes hsp70 genes exist as part of a multigene family. They are found in most cellular compartments of eukaryotes including nuclei, mitochondria, chloroplasts, the endoplasmic reticulum and the cytosol, as well as in bacteria. The genes show a high degree of conservation, having at least 5O% identity. The N-terminal two thirds of hsp70s are more conserved than the C-terminal third. Hsp70 binds ATP with high affinity and possesses a weak ATPase activity which can be stimulated by binding to unfolded proteins and synthetic peptides. When hsc70 (constitutively expressed) present in mammalian cells was truncated, ATP binding activity was found to reside in an N-terminal fragment of 44 kDa which lacked peptide binding capacity. Polypeptide binding ability therefore resided within the C-terminal half. The structure of this ATP binding domain displays multiple features of nucleotide binding proteins. All hsp70s, regardless of location, bind proteins, particularly unfolded ones. The molecular chaperones of the hsp70 family recognize and bind to nascent polypeptide chains as well as partially folded intermediates of proteins preventing their aggregation and misfolding. The binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein. The universal ability of hsp70s to undergo cycles of binding to and release from hydrophobic stretches of partially unfolded proteins determines their role in a great variety of vital intracellular functions such as protein synthesis, protein folding and oligomerization and protein transport.
Species/Host	Mouse
Reactivity	Amphibian, Bacteria, Crustacean, Drosophila, Fish, Gallus, Human, Mouse, Rat, Saccharomyces, Yeast
Conjugation	FITC
Tested Applications	ICC, IF, IHC
Immunogen	Human recombinant HSP70 overexpressed in E.coli
Target	HSP70

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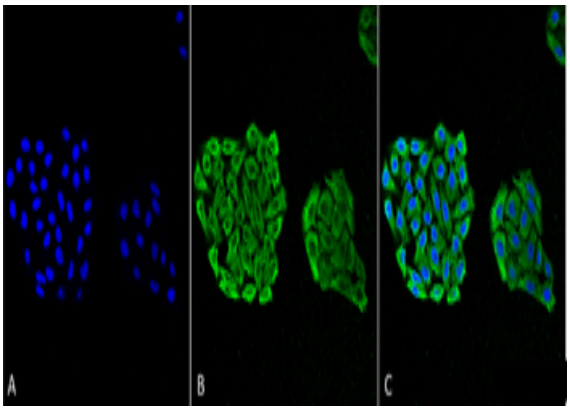
Preservatives	640.91mM DMSO, 136.36mM Ethanolamine, 9.09mM Sodium Bicarbonate in 90.9% PBS
Concentration	1 mg/ml
Storage	Conjugated antibodies should be stored according to the product label
Note	For research use only
Application notes	0.2 µg/ml of SMC-164 was sufficient for detection of HSP70 in 20 µg of heat shocked HeLa cell lysate by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.
Isotype	IgG1
Clonality	Monoclonal
Clone Number	3A3
MW	70kDa
Uniprot ID	**P0DMV9**, **P0DMV8**
NCBI	**NP_005336.3**
Entrez	**3303**
Dilution Range	WB (1:5000), ICC/IF (1:500), IP (2µg)
Expiration Date	12 months from date of receipt.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-HSP70 Monoclonal Antibody, Clone 3A3. Tissue: Cervical cancer cell line (HeLa). Species: Human. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-HSP70 Monoclonal Antibody at 1:100 for 60 min at RT. Secondary Antibody: Goat Anti-Mouse ATTO 488 at 1:100 for 60 min at RT. Counterstain: DAPI (blue) nuclear stain at 1:5000 for 5 min RT. Localization: Cytoplasm. Magnification: 40X.

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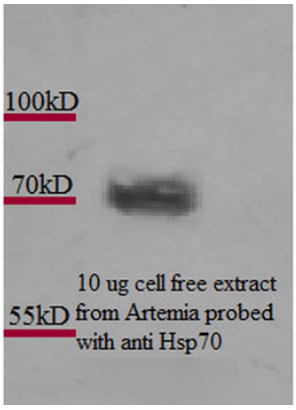
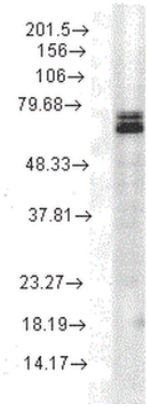


Western Blot analysis of Artemia franciscanna (brine shrimp) cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone 3A3. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000.



Western Blot analysis of Rat cell lysates showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone 3A3. Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

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