10320 Camino Santa Fe, Suite G
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HSP70 Antibody
HSP70 Antibody, Clone C92F3A-5
Catalog # ASM10000

Specification

HSP70 Antibody - Product Information

Application	**WB, IHC, ICC, E, FC, IEM, BL, AM**
Primary Accession	P08107
Other Accession	NP_005336.3
Host	**Mouse**
Isotype	**IgG**
Reactivity	**Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Chicken, Bovine, C.Elegans, Dog, Sheep, Guinea Pig, Drosophila**
Clonality	**Monoclonal**

Description
Mouse Anti-Human HSP70 Monoclonal IgG

Target/Specificity
Detects ~70kDa. Does not cross-react with HSC70 (HSP73).

Other Names
HSP70 1 Antibody, HSP70 2 Antibody, HSP70.1 Antibody, HSP72 Antibody, HSPA1 Antibody, HSPA1A Antibody, HSPA1B Antibody

Immunogen
Human HSP70

Purification
Protein G Purified

Storage	**-20ºC**

Storage Buffer
PBS pH7.4, 50% glycerol, 0.1% sodium azide

Shipping Temperature	**Blue Ice or 4ºC**

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.

Cellular Localization
Cytoplasm

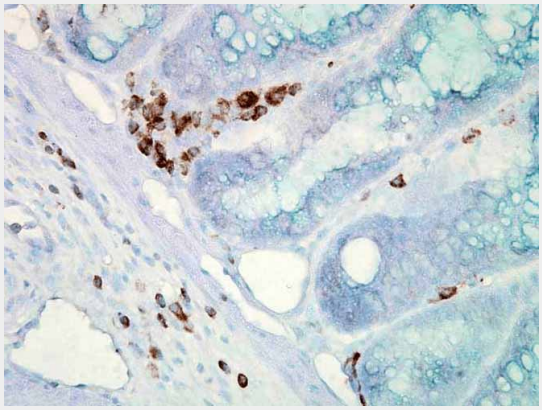
HSP70 Antibody - Protocols

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

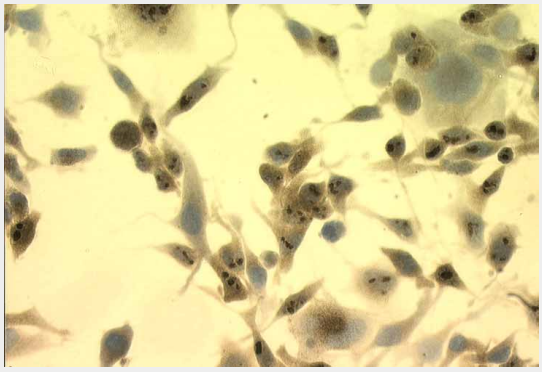
- Western Blot
- Blocking Peptides

- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HSP70 Antibody - Images



Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92 (ASM10000). Tissue: colon carcinoma. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (ASM10000) 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.



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92 (ASM10000). Tissue: Heat Shocked Melanoma cells. Species: Mouse. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (ASM10000) at 1:1000 for 16 hours at RT. Secondary Antibody: Biotin Goat Anti-Mouse. Courtesy of: Dr. Ewa Malusecka, Maria Sklodowska-Curie Memorial Cancer Centre and Inst. Of Oncology, Poland.

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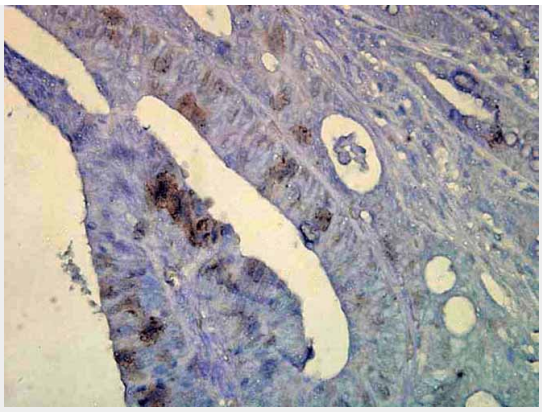
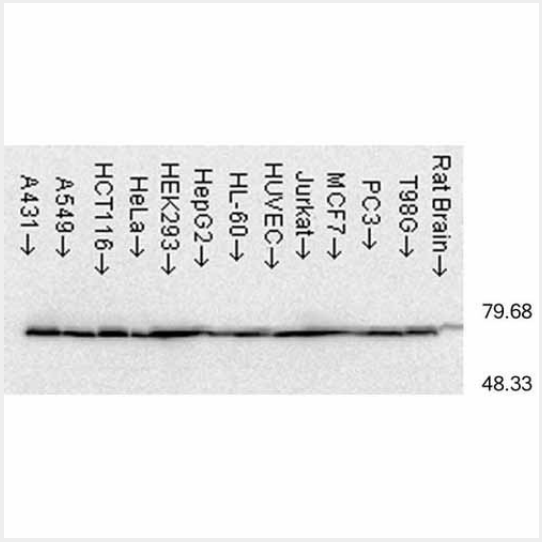
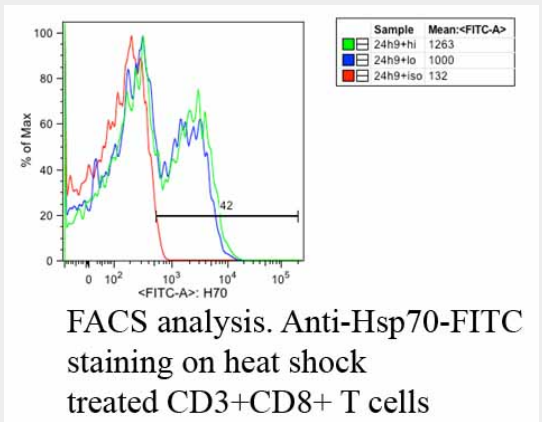


Immunohistochemistry analysis using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92 (ASM10000). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (ASM10000) at 1:10000 for 12 hours at 4°C. Secondary Antibody: Biotin Goat Anti-Mouse at 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.



Western Blot analysis of Human cell lysates from various cell lines showing detection of Hsp70 protein using Mouse Anti-Hsp70 Monoclonal Antibody, Clone C92 (ASM10000). Load: 15 µg. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Hsp70 Monoclonal Antibody (ASM10000) at 1:1000 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.



FACS analysis. Anti-Hsp70-FITC staining on heat shock treated CD3+CD8+ T cells

Fluorescence Activated Cell Sorting analysis using Mouse Anti-Hsp70: FITC Monoclonal Antibody, Clone C92 (ASM10000). Tissue: Heat Shocked CD3+ CD8+ T cells . Species: Mouse. Primary Antibody: Mouse Anti-Hsp70: FITC Monoclonal Antibody (ASM10000) at 1:1000. Courtesy of: Cheryl Cameron, Vaccine and Gene Therapy Instit. Florida.

HSP70 Antibody - Background

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 50% identity (2). 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 (3). 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 (4). The structure of this ATP binding domain displays multiple features of nucleotide binding proteins (5).
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 (6). 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. For more information visit our HSP70 Scientific Resource Guide at http://www.HSP70.com.

HSP70 Antibody - References

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