

HSP70 Antibody
HSP70 Antibody, Clone C92F3A-5
Catalog # ASM10001

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, Sheep, Guinea Pig, Dog, Drosophila
Clonality	Monoclonal
Format	HRP

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

-20°C

Storage Buffer

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

Shipping Temperature

Blue Ice or 4°C

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 Cytometry](#)
- [Cell Culture](#)

HSP70 Antibody - Images

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

1. Welch W.J. and Suhan J.P. (1986) J Cell Biol. 103: 2035-2050.
2. Boorstein W. R., Ziegelhoffer T. & Craig E. A. (1993) J.Mol. Evol. 38(1): 1-17.
3. Rothman J. (1989) Cell 59: 591-601.
4. DeLuca-Flaherty et al. (1990) Cell 62: 875-887.
5. Bork P., Sander C. & Valencia A. (1992) Proc. Natl Acad. Sci. USA 89: 7290-7294.
6. Fink A.L. (1999) Physiol. Rev. 79: 425-449.
7. Galan A., et al. (2000) J. Biol. Chem. 275: 11418-11424.
8. Kondo T., et al. (2000) J. Biol. Chem. 275: 8872-8879.
9. Misaki T., et al. (1994) Clin. Exp. Immun. 98: 234-239.
10. Pockley A.G., et al. (1998) Immunol. Invest. 27: 367-377.
11. Moon I.S., et al. (2001) Cereb Cortex 11(3): 238-248.
12. Dressel et al. (2000) J. Immunol. 164: 2362-2371.
13. Verma A.K., et al. (2007) Fish and Shellfish Immunology. 22(5): 547-555.
14. Banduseela V.C., et al. (2009) Physiol Genomics. 39(3): 141-159.

HSP70 Antibody - Citations

- [Exercise Preconditioning Attenuates Neurological Injury by Preserving Old and Newly Formed HSP72-Containing Neurons in Focal Brain Ischemia Rats.](#)