

**HSP70/HSC70 Antibody**  
**HSP70/HSC70 Antibody, Clone N27F3-4**  
**Catalog # ASM10003****Specification**

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**HSP70/HSC70 Antibody - Product Information**

Application	WB, IHC, ICC, IP, FC, IEM
Primary Accession	<a href="#">P08107</a>
Other Accession	<a href="#">NP_005336.3</a>
Host	Mouse
Isotype	IgG1
Reactivity	Human, Mouse, Rat, Rabbit, Hamster, Monkey, Pig, Chicken, Xenopus, Bovine, C.Elegans, Sheep, Guinea Pig, Fish, Dog, Drosophila
Clonality	Monoclonal

**Description**

Mouse Anti-Human HSP70/HSC70 Monoclonal IgG1

**Target/Specificity**

Detects ~72 (HSP) and ~73kDa (HSC).

**Other Names**

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

**Immunogen**

Recombinant HSP70/HSC70

**Purification**

Protein G Purified

**Storage**

-20°C

**Storage Buffer**

PBS pH7.2, 50% glycerol, 0.09% sodium azide

**Shipping Temperature**

Blue Ice or 4°C

**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.

**Cellular Localization**

Cytoplasm

**HSP70/HSC70 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/HSC70 Antibody - Images**

### **HSP70/HSC70 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/HSC70 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. Polanonka-Grabowska R. et. al. (1997) Blood 90: 1516-1526.
8. Schnell D.J. et. al. (1994) Science 266: 1007-1012.
9. Kabakov A.E., et. al. (2002) Am. J.Physiol. 283(2): C521-C534.
10. Ricart J. et. al. (1997) Biochem. J. 324: 635-643.
11. Hang H. and Fox M.H. (1995) Cytometry 19(2): 119-125.