10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HSP70 Antibody
HSP70 Antibody, Clone 7FB
Catalog # ASM10158

Specification

HSP70 Antibody - Product Information

Application	**WB, ICC, E**
Primary Accession	Q9BIS2
Other Accession	NP_524927.2
Host	**Rat**
Isotype	**IgG2B**
Reactivity	**Drosophila**
Clonality	**Monoclonal**

Description
Rat Anti-Drosophila HSP70 Monoclonal IgG2B

Target/Specificity
Detects ~70kDa (heat-inducible form).

Other Names
HSP70Bb Antibody, Heat Shock Protein 70Bb Antibody, dHSP70 Antibody, HSP70b Antibody, HSP70B Antibody, Dm-HSP70 Antibody

Immunogen
Prepared from Drosophila tissue culture cells heat shocked at 36.5◦C for 3 hours, and isolated using SDS PAGE.

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-230 was sufficient for detection of Drosophila HSP70 using an indirect assay with rabbit anti-rat IgG and goat anti-rabbit IgG:HRP.

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

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. Nut1 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.