

## Hsp70/Hsp72, mAb (C92F3A-5)

### Product Specifications

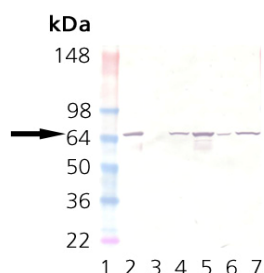
<b>Catalog Number:</b>	SPA-810 (also known as BML-SA660)
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG <sub>1</sub>
<b>Species Reactivity:</b>	Human, Mouse, Rat, Bovine, Beluga, Canine, Chicken, <i>C. elegans</i> , <i>Drosophila</i> , Fish (Carp), Guinea Pig, Hamster, Monkey, Pig, Rabbit, Sheep, Teal  Other species not tested.
<b>Application:</b>	WB <sup>6-8</sup> (Colorimetric, 1:1000), IHC <sup>6</sup> (1:50), EIA <sup>9</sup> Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator</i>
<b>Predicted MW:</b>	70 kDa
<b>Concentration:</b>	See product label
<b>Purification:</b>	Protein G Affinity
<b>Format:</b>	PBS, 0.09% azide, 50% glycerol
<b>Storage:</b>	-20°C  <i>Shipping conditions may differ from the recommended storage temperature</i>
<b>Immunogen:</b>	Native human Hsp70 protein <sup>1</sup>
<b>Related Products:</b>	
ESP-555	Hsp70 Active Recombinant Protein - Low Endotoxin
LYC-HL101	HeLa Cell Lysate (Heat Shocked)
SAB-101	Goat anti-Mouse IgG pAb, AP Conjugate
EKS-700B	StressXpress Hsp70 ELISA Kit
EKS-715	Hsp70 High Sensitivity EIA Kit

### Background:

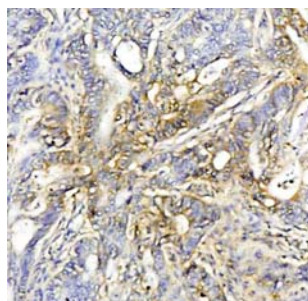
The 70 kDa heat shock protein Hsp70 belongs to the Hsp70 family of highly-related protein isoforms ranging in size from 66 kDa to 78 kDa. Hsc70 shares close biochemical and biological ties to Hsp70, and also belongs to the Hsp70 family. These proteins include cognate members found within major intracellular compartments and highly inducible isoforms predominantly cytoplasmic or nuclear in distribution<sup>1,2</sup>. Members of the Hsp70 family function as molecular chaperones involved in such cellular functions as protein folding, transport, maturation and degradation, operating in an ATP-dependent manner. The molecular chaperones of the Hsp70 family recognize and bind to nascent polypeptide chains or partially folded intermediates of proteins, preventing their aggregation and misfolding, and the binding of ATP triggers a critical conformational change leading to the release of the bound substrate protein<sup>3</sup>. Data demonstrates that with a ubiquitin-like domain at its amino terminus and its association with the 26S proteasome in HeLa cells, Bag-1 modulates the chaperone activity of Hsc70 and Hsp70. These findings reveal Bag-1's role as a physical link between the Hsc70/Hsp70 chaperone system and the proteasome<sup>4</sup>. Experimental data also shows that the ATPase domain and the substrate binding domain of Hsp70 (or Hsc70) cooperate to form a co-chaperone-chaperone complex with the synaptic vesicle cysteine string protein (csp), essential for normal neurotransmitter release<sup>5</sup>.

### References:

1. Welch, W.J. and Suhan, J.P. (1986) *J Cell Biol.* **103**, 2035-2050.
2. Tavaría, M., *et al.* (1996) *Cell Stress Chaperones* **1**, 23-28.
3. Fink A.L. (1999) *Physiol Rev.* **79**, 425-449.
4. Luders, J., *et al.* (2000) *J Biol Chem* **275**, 4613-4617.
5. Stahl B., *et al.* (1999) *Eur J Cell Biol.* **78**, 375-381.
6. Moon, I.S. *et al.* (2001) *Cereb Cortex* **11**, 238-248.
7. Kondo, T., *et al.* (2000) *J Biol Chem.* **275**, 8872-8879.
8. Kilgore, J., *et al.* (1994) *J App Physiol.* **76**, 598-601.
9. Pockley, A.G., *et al.* (1998) *Immunol. Invest.* **27**, 367-377.
10. Zhu, X., *et al.* (1996) *Science* **272**, 1606-1614.



**Western Blot Analysis of Hsp70 (Hsp72):** Lane 1: MWM, Lane 2: Hsp70 Active Recombinant Protein, Lane 3: Hsc70 (Hsp73) Recombinant Protein (Negative Control), Lane 4: PC-12 (Heat Shocked), Lane 5: HeLa (Heat Shocked), Lane 6: 3T3 (Heat Shocked), Lane 7: CHO-K1 (Heat Shocked)



Immunohistochemical staining of human colon cancer tissue using Hsp70 Monoclonal Antibody (C92F3A-5) at a dilution of 1:50



Substrate binding domain of Hsp70 in complex with a substrate peptide<sup>10</sup>

Generally reagents are good for one year from the date of receipt, except for conjugates which are good for six months and reagents with an expiration date indicated on the label or other supporting document.

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