

Hsp90 Monoclonal Antibody (16F1)

Product Specifications

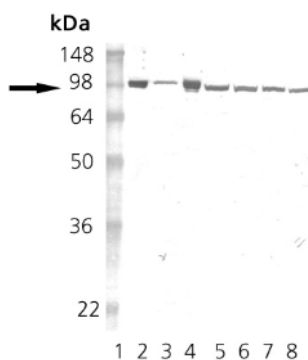
Catalog Number:	SPA-835
Source	Rat
Isotype:	IgG _{2a}
Species Reactivity:	Human, monkey, mouse, rat, hamster, guinea pig, rabbit, canine, bovine, sheep, pig, chicken, frog, plants (cotton, tomato), <i>Drosophila</i> , salmon, carp, brook trout, and beluga; weakly reactive: mussel, scallop
Applications:	WB⁶⁻⁹: 1:1000 (Colorimetric) Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator.</i>
Predicted M.W.:	~ 90 kDa
Concentration:	See product label
Purification:	Protein G Affinity
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage:	Store at -20°C <i>Shipping conditions may differ from the recommended storage temperature.</i>
Immunogen:	Native human Hsp90 protein
Related Products:	
SPP-770	Hsp90 Native Protein
SPP-776	Hsp90 α Recombinant Protein
LYC-HL101	HeLa Cell Lysate (Heat Shocked)
SAB-100	Goat anti-Mouse IgG (Fab), HRP Conjugate
EKS-895	StressXpress Hsp90 α ELISA Kit
SPA-835B	Hsp90 Monoclonal Antibody (16F1), Biotin Conjugate

Background:

The 90 kDa molecular chaperone family includes 90 kDa heat shock protein Hsp90 and 94 kDa glucose-regulated protein grp94, both major molecular chaperones of the cytosol and the endoplasmic reticulum. Mammalian cells contain isoforms Hsp90 α and Hsp90 β , encoded by separate genes. The amino acid sequences of human and yeast Hsp90 α are 85% and 90% homologous to those of Hsp90 β , respectively¹. All known members of the Hsp90 protein family are highly conserved, especially in the N-terminal and C-terminal regions containing independent chaperone sites with different substrate specificity^{2,3}. These ubiquitous and highly conserved proteins account for 1-2% of all cellular proteins in most cells. Hsp90 functions as part of the cell's powerful network of chaperones to fight the deleterious consequences of protein unfolding caused by non-physiological conditions. In the absence of stress, however, Hsp90 provides a necessary component of such fundamental cellular processes as hormone signaling and cell cycle control. In this context, researchers identified key regulatory proteins as substrates of Hsp90, including steroid receptors, cell cycle kinases involved in signal transduction, and p53⁴. Hsp90 may act as a capacitor for morphological evolution by buffering widespread variation, potentially affecting morphogenic pathways. When temperature and other stress factors compromise *Drosophila* Hsp90 buffering, cryptic variant expression occurs, and selection can lead to the continued expression of these traits even after Hsp90 function is restored⁵.

References:

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2. Scheibel, T., Buchner, J. (1997) in *Guidebook to Chaperones*, ed. Gething, M.J. (Oxford Univ. Press, Oxford), 147-150.
3. Scheibel, T., *et al.* (1999) *J PNAS* **96**, 1297-1302.
4. Scheibel, T. *et al.* (1998) *J Biochem Pharmacol.* **56**, 675-682.
5. Rutherford, S. L. *et al.* (1998) *Nature* **396**, 336-342.
6. Lai, B.-T., *et al.* (1984) *Molecular & Cellular Biol.* **4**, 2802-2810.
7. Holmberg, C. I., *et al.* (1997) *J Biol Chem.* **272**, 6792-6798.
8. Kondo, T., *et al.* (2000) *J Biol Chem.* **275**, 8872-8879.



Western Blot Analysis of Hsp90 mAb (16F1). Lane 1: MWM, Lane 2: Hsp90 native protein (SPP-770), Lane 3: Hsp90 recombinant protein (SPP-772), Lane 4: Hsp90 α recombinant protein (SPP-776), Lane 5: HeLa (Heat Shocked), Lane 6: L-929, Lane 7: Rat-2, Lane 8: RK-13

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