

Hsp90 Monoclonal Antibody (2D12)

Product Specifications

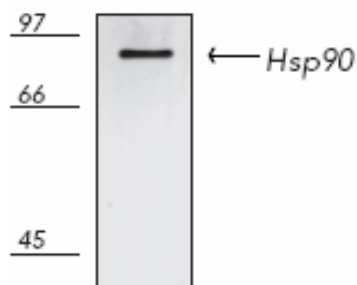
Catalog Number:	SPA-845
Host:	Rat
Isotype:	IgM
Species Reactivity:	Human, monkey, mouse, rat, beluga, bovine, canine, chicken (weak), fish (carp), guinea pig, hamster, rabbit (weak), and sheep
Applications: <i>The optimal dilution for a specific application must be determined by the investigator</i>	WB^{7,8}: 1:500 (Colorimetric)
Predicted m.w.:	~90 kDa
Concentration:	Not determined
Purification:	Ammonium sulfate precipitate
Format:	PBS, pH 7.2, 0.09% azide, 50% glycerol
Storage: <i>Shipping conditions may differ from the recommended storage temperature</i>	Store at -20°C
Immunogen:	Native mouse Hsp90 protein ⁶
Related Products:	
SPP-770	Hsp90 Native Protein
LYC-HL101	HeLa Cell Lysate (Heat Shocked)
SPA-830	Hsp90 Monoclonal Antibody (AC88)
SPA-846	Hsp90 Polyclonal Antibody
SPA-835	Hsp90 Monoclonal Antibody (16F1)

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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4. Scheibel, T. *et al* (1998) *J Biochem Pharmacol.* **56**, 675-682.
5. Rutherford, S. L., *et al* (1998) *Nature* **396**, 336-342.
6. Whitlaw, M. L., *et al.* (1991) *J Biol Chem.* **266**, 16436-16440.
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Western blot analysis of human HeLa cell lysate, probed with Hsp90 Monoclonal Antibody (2D12)

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