

Hsp90 α Monoclonal Antibody (9D2)

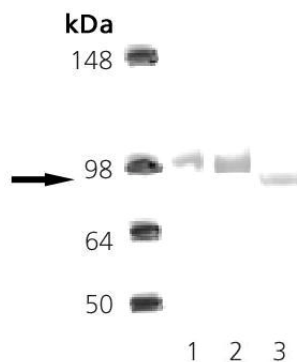
Product Specifications	
Catalog Number:	SPA-840
Source:	Rat
Isotype:	IgG _{2a}
Species Reactivity:	Human, chicken Other species not tested.
Applications:	WB ^{1,8} : 1:1000 (Colorimetric) *IHC ⁷ : 1:50 Flow: 1:100 <i>For immunoprecipitation, rat immunoglobulins do not react well with Protein A; therefore we recommend using Protein G. SPA-840 recognizes lower molecular weight Hsp90 degradation fragments as well as the intact protein¹. This antibody is therefore useful for monitoring proteolytic degradation of Hsp90.</i> * Human colon cancer tissue
Predicted M.W.:	~90 kDa
Concentration:	See product label
Purification:	Protein G Affinity
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:	Purified Hsp90 isolated from human therapeutic orchiectomy specimens ¹
Related Products:	
EKS-895	Hsp90 α ELISA Kit
SPS-771	Hsp90 α Polyclonal Antibody
SPP-776	Hsp90 α Recombinant Protein

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 , respectively². 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^{3,4}. 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 p53⁵. 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 restored⁶.

References:

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Western blot analysis of 50 ng of Hsp90 native protein (SPP-770) (1), 50 ng of Hsp90 α recombinant protein (SPP-776) (2) and heat-shocked HeLa lysate (3) probed with Hsp90 α Rat Monoclonal Antibody (9D2) at 1:1000

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