

## Hsp90 Recombinant Protein

### Product Specifications

<b>Catalog Number:</b>	SPP-776												
<b>Product Description:</b>	Purified Recombinant Human Hsp90 Protein												
<b>Format:</b>	DPBS (2.7mM KCl, 1.5mM KH <sub>2</sub> PO <sub>4</sub> , 137mM NaCl and 8.1mM Na <sub>2</sub> HPO <sub>4</sub> ), containing 10% glycerol												
<b>Application:</b>	WB Control: 50 ng of protein recommended (Colorimetric)  <i>The optimal dilution for a specific application must be determined by the investigator</i>												
<b>Purity:</b>	>80% pure as determined by SDS-PAGE and Western blot analyses												
<b>Molecular Weight:</b>	~ 90 kDa observed												
<b>Concentration:</b>	See product label												
<b>Storage:</b>	Store at -70°C <i>Shipping conditions may differ from the recommended storage temperature</i>												
<b>Related Products:</b>	<table border="0"> <tr> <td>SPA-840</td> <td>Hsp90 α Monoclonal Antibody (9D2)</td> </tr> <tr> <td>LYC-HL101</td> <td>HeLa Cell Lysate (Heat Shocked)</td> </tr> <tr> <td>SAB-200</td> <td>Rabbit anti-Rat IgG Polyclonal Antibody, HRP Conjugate</td> </tr> <tr> <td>EKS-895</td> <td>Hsp90α ELISA Kit</td> </tr> <tr> <td>SPP-770</td> <td>Hsp90 Native Protein</td> </tr> <tr> <td>SPA-830</td> <td>Hsp90 Monoclonal Antibody (AC88)</td> </tr> </table>	SPA-840	Hsp90 α Monoclonal Antibody (9D2)	LYC-HL101	HeLa Cell Lysate (Heat Shocked)	SAB-200	Rabbit anti-Rat IgG Polyclonal Antibody, HRP Conjugate	EKS-895	Hsp90α ELISA Kit	SPP-770	Hsp90 Native Protein	SPA-830	Hsp90 Monoclonal Antibody (AC88)
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### Background:

The 90 kDa molecular chaperone family comprises several proteins including the 90 kDa heat shock protein, Hsp90 and the 94 kDa glucose-regulated protein, grp94 which are major molecular chaperones of the cytosol and of the endoplasmic reticulum. In mammalian cells there are at least two Hsp90 isoforms, Hsp90 and Hsp90 which are encoded by separate genes. The amino acid sequence of human and yeast Hsp90 is 85% and 90% homologous to that of Hsp90 respectively<sup>1</sup>. All known members of the Hsp90 protein family are highly conserved, especially in the N-terminal and C-terminal regions which have been shown to contain independent chaperone sites with different substrate specificity<sup>2,3</sup>. These ubiquitous and highly conserved proteins account for 1-2% of all cellular proteins in most cells. Hsp90 is part of the cell's powerful network of chaperones to fight the deleterious consequences of protein unfolding caused by non-physiological conditions. However, in the absence of stress, Hsp90 is a necessary component of fundamental cellular processes such as hormone signalling and cell cycle control. In this context, several key regulatory proteins such as steroid receptors, cell cycle kinases involved in signal transduction and p53 have been identified as substrates of Hsp90<sup>4</sup>. It has been suggested that Hsp90 acts as a capacitor for morphological evolution by buffering widespread variation, which may affect morphogenic pathways. Recent studies indicate that when *Drosophila* Hsp90 buffering is compromised by temperature for example, cryptic variants are expressed and selection can lead to the continued expression of these traits, even if Hsp90 function is restored<sup>5</sup>.

### References:

1. Nemoto, T. and Sato, N. (1998) *Biochem. J.* **330**: 989-995.
2. Scheibel, T. and Buchner, J. (1997) in *Guidebook to Chaperones* Ed. Gething, M.J., Oxford Univ. Press, Oxford, 147-150.
3. Scheibel, T., et al. (1999) *PNAS* **96**, 1297-1302.
4. Scheibel, T. and Buchner, J. (1998) *Biochem Pharmacol.* **56**, 675-682.
5. Rutherford, S.L. and Linquist, S. (1998) *Nature* **396**, 336-342.