### HSP90a Protein Catalog# SPR-101A/B/C Size: 50/100/200µg

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#### This product is for *in vitro* research use only and is not intended for use in humans or animals

Product	Recombinant Human Hsp90		
	alpha Protein		
Source	Recombinant Hsp90α cloned		
	from a human cDNA library and		
	expressed in <i>E.coli</i>		
Cited Applications	WB control		
Purity	This protein is >95% pure as		
	determined by SDS-PAGE		
	analysis.		
Format	Multi-step chromatographically		
	purified human Hsp90a in 50mM		
	Tris/HCl pH 7.5, 5mM Bme, 0.3M		
	NaCl, and 10% glycerol		
Concentration	0.75 mg/mL		
Storage and	-20°C; 1 year+; shipped on		
stability	cold packs		

#### Scientific Background

Hsp90 is a highly conserved and essential stress protein that is expressed in all eukaryotic cells. From a functional perspective, hsp90 participates in the folding, assembly, maturation, and stabilization of specific proteins as an integral component of a chaperone complex (1-4). Despite its label of being a heat-shock protein, hsp90 is one of the most highly expressed proteins in unstressed cells (1-2% of cytosolic protein). It carries out a number of housekeeping functions including controlling the activity, turnover, and trafficking of a variety of proteins. Most of the hsp90regulated proteins that have been discovered to date are involved in cell signaling (5-6). The number of proteins now know to interact with Hsp90 is about 100. Target proteins include the kinases v-Src, Wee1, and c-Raf, transcriptional regulators such as p53 and steroid receptors, and the polymerases of the hepatitis B virus and telomerase.5. When bound to ATP, Hsp90 interacts with co-chaperones Cdc37, p23, and an assortment of

immunophilin-like proteins, forming a complex that

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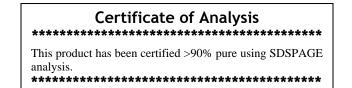
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stabilizes and protects target proteins from proteasomal degradation.

In most cases, hsp90-interacting proteins have been shown to co-precipitate with hsp90 when carrying out immunoadsorption studies, and to exist in cytosolic heterocomplexes with it. In a number of cases, variations in hsp90 expression or hsp90 mutation has been shown to degrade signaling function via the protein or to impair a specific function of the protein (such as steroid binding, kinase activity) in vivo. Ansamycin antibiotics, such as geldanamycin and radicicol, inhibit hsp90 function (7).

#### Selected References

- Arlander SJH, et al. (2003) J Biol Chem 278: 52572-52577. 1.
- 2. Pearl H, et al. (2001) Adv Protein Chem 59:157-186.
- 3. Neckers L, et al. (2002) Trends Mol Med 8:S55-S61.
- Pratt W, Toft D. (2003) Exp Biol Med 228:111-133. 4.
- 5. Pratt W, Toft D. (1997) Endocr Rev 18: 306-360.
- 6. Pratt WB. (1998) Proc Soc Exptl Biol Med 217: 420-434.
- 7. Whitesell L, et al. (1994) Proc Natl Acad Sci USA 91: 8324-8328.



## Material Safety Data Sheet HSP90α Protein SPR-101

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

#### **Hazardous Ingredients**

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

Tione	Physical Data		
Known Hazardous Components None	CAS Number	Percent	

This product consists of purified protein in Tris buffer in 10% glycerol shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

#### Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

#### **Toxicological Properties**

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

#### **Preventative Measures**

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

#### **Spill and Leak Procedures**

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### **First Aid Measures**

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

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