

## OriGene Technologies, Inc.

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## AR03017PU-S Human HSP90AA1 / HSP90 alpha - Purified

Alternate names:	HSP86, HSP90A, HSPC1, HSPCA, Heat shock 86 kDa, Heat shock protein HSP 90-alpha, NY-REN-38
Quantity:	50 µg
Concentration:	Lot specific
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 hsp90-regulated 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 stabilizes and protects target 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).
Uniprot ID:	<u>P07900</u>
NCBI:	<u>9606</u>
Species:	Human
Source:	E. coli
Format:	<b>State:</b> Liquid protein <b>Purity:</b> >90% pure as determined by SDS-PAGE analysis (Purified by Multy-step Chromatography). <b>Buffer System:</b> 50mM Tris pH 7.5, 5mM Bme, 0.3M NaCl, 10% Glycerol.
Applications:	Western Blot Control, SDS-PAGE, ATPase Activity Assay, Surface Plasmon Resonance (SPR). Specificity: ~90 kDa Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Description:	Recombinant Hsp90 alpha cloned from a Human cDNA library
Add. Information:	Centrifuge vial before opening.

For research and in vitro use only. Not for diagnostic or therapeutic work. Material Safety Datasheets are available at www.acris-antibodies.com or on request.

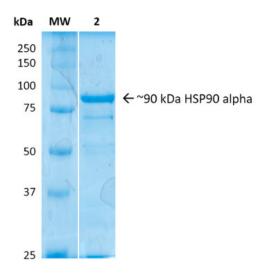
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Storage:	Store at 2-8°C for one week or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
Product Citations:	<ul> <li>Originator or purchased from resellers:</li> <li>1. Wang, J., Grishin, A.V. and Ford, H.R. Experimental Anti-Inflammatory Drug Semapimod Inhibits TLR Signaling by Targeting the TLR Chaperone gp96. J Immunol. 2016, 196(12):5130-7. PubMed PMID: 27194788.</li> <li>2. Bartolini, M., Wainer, I.W., Bertucci, C. and Andrisano, V. The rapid and direct determination of ATPase activity by ion exchange chromatography and the application to the activity of heat shock protein-90. J Pharm Biomed Anal. (2012) 73, 77-81. PubMed PMID: 22497853.</li> <li>3. Rateb, M.E. et al. (2011) J Nat Prod. 2011. 74 (6): 1491-1499. Chaxamycins A–D, Bioactive Ansamycins from a Hyper-arid Desert Streptomyces sp. PubMed PMID: 21553813.</li> <li>4. Goode, K.M. et al. (2017) Targeting the Hsp90 C-terminal domain to induce allosteric inhibition and selective client downregulation. Biochim Biophys Acta. [Epub ahead of print] PubMed PMID: 28495207.</li> <li>5. Saito, Y. et al. (2016) Oxidation and interaction of DJ-1 with 20S proteasome in the erythrocytes of early stage Parkinson's disease patients. Sci Rep. 6:30793. PubMed PMID: 27470541.</li> <li>6. Bober, J. et al. (2016) IUBMB Life. 68(3):242-51. Identification of new FGF1 binding partners-Implications for its intracellular function. PubMed PMID: 26840910.</li> <li>7. Gilbert, K.M., Rowley, B., Gomez-Acevedo, H. and Blossom, S.J. Coexposure to Mercury Increases Immunotoxicity of Trichloroethylene 2011. Toxicol Sci. 119 (2): 281-292. PubMed PMID: 21084432.</li> </ul>
General Readings:	<ol> <li>Arlander SJH, et al. (2003) J Biol Chem 278: 52572-52577.</li> <li>Pearl H, et al. (2001) Adv Protein Chem 59:157-186.</li> <li>Neckers L, et al. (2002) Trends Mol Med 8:S55-S61.</li> <li>Pratt W, Toft D. (2003) Exp Biol Med 228:111-133.</li> <li>Pratt W, Toft D. (1997) Endocr Rev 18: 306–360.</li> <li>Pratt WB. (1998) Proc Soc Exptl Biol Med 217: 420–434.</li> <li>Whitesell L, et al. (1994) Proc Natl Acad Sci USA 91: 8324–8328.</li> </ol>

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## **ORIGENE** AR03017PU-S: Human HSP90AA1 / HSP90 alpha - Purified

**Pictures:** 

SDS-Page of human HSP90 Alpha protein (SPR-101). Lane 1: Molecular Weight Ladder (MW). Lane 2: Human HSP90 alpha protein (AR03017PU).



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