HSP90 alpha Protein

Human Recombinant HSP90 alpha Protein
Catalog No. SPR-101

StressMarq Biosciences INC.
Discovery through partnership | Excellence through quality

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Product Name

HSP90 alpha Protein

Description

Human Recombinant HSP90 alpha Protein

Applications

WB, SDS-PAGE, ATPase Activity Assay, Surface Plasmon Resonance (SPR), DARTs Assay (Drug Affinity Responsive Target Stability Assay), SB (Skin Blotting)

Concentration

Lot/batch specific. See included datasheet.

Conjugates

No tag

Nature

Recombinant

Species

Human

Expression System

E. coli

Purity

>90%

Protein Length

Full Length

Field Of Use

Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Buffer

50mM Tris/HCl pH7.5, 5mM Bme, 0.3M NaCl, 10% glycerol

Storage Temperature

-20ºC

Shipping Temperature

Blue Ice or 4ºC

Purification

Affinity Purified

Specificity

~90 kDa

Cite This Product

Human Recombinant HSP90 alpha Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-101)

Certificate Of Analysis

This product has been certified >90% pure using SDSPAGE analysis.

Biological Description

Alternative Names

HSP86 Protein, HSP89A Protein, HSP90A Protein, HSP90AA1 Protein, HSPC1 Protein, HSPCA Protein, HSPCAL3 Protein, HSP90alpha Protein

Research Areas

Cancer, Heat Shock

Cellular Localization

Cytoplasm, Melanosome

Accession Number

AJ890083

Gene ID

3320

Swiss Prot

P0790, P07900

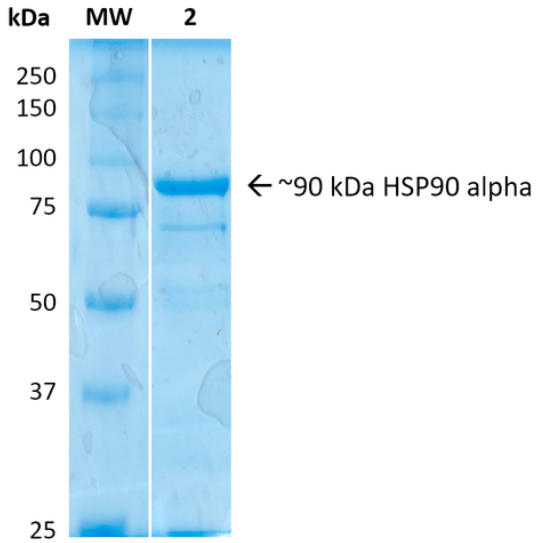
Scientific Background

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 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 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). Looking for more information on HSP90? Visit our new HSP90 Scientific Resource Guide at http://www.HSP90.ca.

References

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

Product Images



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

Product Citations (10)

ATPase activity assay

Experimental Anti-Inflammatory Drug Semapimod Inhibits TLR Signaling by Targeting the TLR Chaperone gp96

Wang, J., Grishin, A.V. and Ford, H.R. (2016) J Immunol. 196(12):5130-7.

PubMed ID: 27194788 **Applications:** ATPase activity assay

The rapid and direct determination of ATPase activity by ion exchange chromatography and the application to the activity of heat shock protein-90.

Bartolini, M., Wainer, I.W., Bertucci, C. and Andrisano, V. (2012) J Pharm Biomed Anal. 73, 77-81.

PubMed ID: 22497853 **Applications:** ATPase activity assay

Chaxamycins A–D, Bioactive Ansamycins from a Hyper-arid Desert Streptomyces sp.

Rateb, M.E. et al. (2011) J Nat Prod. 74 (6): 1491-1499.

PubMed ID: 21553813 **Applications:** ATPase activity assay

Other Citations

Prediction of healing in category I pressure ulcers by skin blotting with plasminogen activator inhibitor 1, interleukin-1α, vascular endothelial growth factor C, and heat shock protein 90α: A pilot study.

Nakai, A. et al. (2019) J Tissue Viability. [Epub ahead of print].

PubMed ID: 30660464 **Applications:** Skin blotting control

8u, a pro-apoptosis/cell cycle arrest compound, suppresses invasion and metastasis through HSP90α downregulating and PI3K/Akt inactivation in hepatocellular carcinoma cells.

Wang, N. et al. (2018) Sci Rep. 8(1):309.

PubMed ID: 29321577 **Applications:** Protein Binding Assay

Extracellular heat shock protein 90α mediates HDM-induced bronchial epithelial barrier dysfunction by activating RhoA/MLC signaling.

Dong, H.M. et al. (2017) Respir Res. 18(1):111.

PubMed ID: 28558721 **Applications:** Functional Assay

Targeting the Hsp90 C-terminal domain to induce allosteric inhibition and selective client downregulation.

Goode, K.M. et al. (2017) Biochim Biophys Acta. 1861(8):1992-2006.

PubMed ID: 28495207 **Applications:** DARTs Assay

Oxidation and interaction of DJ-1 with 20S proteasome in the erythrocytes of early stage Parkinson's disease patients.

Saito, Y. et al. (2016) Sci Rep. 6:30793.

PubMed ID: 27470541 **Applications:** Functional Assay

Identification of new FGF1 binding partners-Implications for its intracellular function.

Bober, J. et al. (2016) IUBMB Life. 68(3):242-51.

PubMed ID: 26840910 **Applications:** Surface Plasmon Resonance Spectroscopy

Coexposure to Mercury Increases Immunotoxicity of Trichloroethylene.

Gilbert, K.M., Rowley, B., Gomez-Acevedo, H. and Blossom, S.J. (2011) Toxicol Sci. 119 (2): 281-292.

PubMed ID: 21084432 **Applications:** Western Blot Control