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Polyclonal Antibody to HSP90AB1 / HSP90 beta - Serum

Alternate names: HSP84, HSP90B, HSPC2, HSPCB, Heat shock 84 kDa, Heat shock protein HSP 90-beta

Catalog No.: AP03042SU-S

Quantity: 25 µl

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).

Uniprot ID: P08238

NCBI: NP_031381.2

GeneID: 3326

Host / Isotype: Rabbit / IgG

Immunogen: Purified recombinant Human HSP90 beta

Format: **State:** Liquid whole serum

Applications: **ELISA.**
Western blot (1): 1/20000-1/40000 (ECL).
A 1/4000 dilution of this antibody was sufficient for detection of HSP90 in 20 µg of HeLa cell lysate by ECL immunoblot analysis.
Immunoprecipitation.
Immunofluorescence.
Immunohistochemistry.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody ist specific for Hsp90 beta and does **not** cross react with Hsp90 alpha.
Species: Human, Mouse, Rat.
Other species not tested.

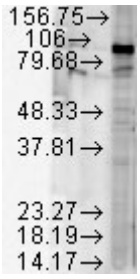
Storage: Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

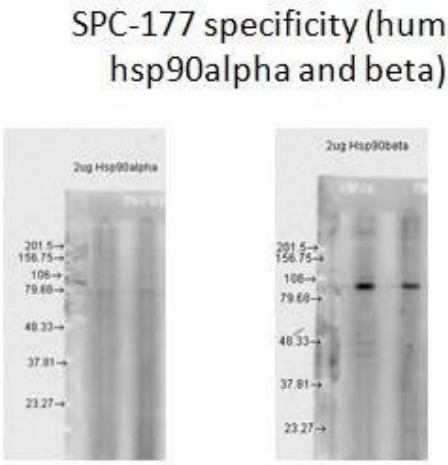
1. Arlander S.J.H., et al. (2003) J Biol Chem 278: 52572-52577.
2. Pearl H., et al. (2001) Adv Protein Chem 59:157-186.
3. Neckers L., et al. (2002) Trends Mol Med 8:S55-S61.
4. Pratt W., Toft D. (2003) Exp Biol Med 228:111-133.
5. Pratt W., Toft D. (1997) Endocr Rev 18: 306–360.
6. Pratt W.B. (1998) Proc Soc Exptl Biol Med 217: 420–434.
7. Whitesell L., et al. (1994) Proc Natl Acad Sci USA 91: 8324–8328.
8. Orthwein A, Patenaude AM, Affar el B, Lamarre A, Young JC, Di Noia JM. Regulation of activation-induced deaminase stability and antibody gene diversification by Hsp90. J Exp Med. 2010 Nov 22;207(12):2751-65. doi: 10.1084/jem.20101321. Epub 2010 Nov 1. PubMed PMID: 21041454.
9. MODULATING AND/OR DETECTING ACTIVATION INDUCED DEAMINASE AND METHODS OF USE THEREOF. United States Patent Application 20110237560. Di Noia, Javier M. (MONTREAL, CA) and Orthwein, Alexandre (MONTREAL, CA).
10. Donlin LT, Andresen C, Just S, Rudensky E, Pappas CT, Kruger M, et al. Smyd2 controls cytoplasmic lysine methylation of Hsp90 and myofilament organization. Genes Dev. 2012 Jan 15;26(2):114-9. doi: 10.1101/gad.177758.111. Epub 2012 Jan 12. PubMed PMID: 22241783.

Pictures:

Western blot analysis of Hsp90Beta in a cell line mix, using a 1:2000 dilution of TA309400.



Analysis showing the specificity of TA309400.? Left: 2ug of Hsp90Alpha, Right: 2ug Hsp90Beta.



Hsp90Beta visualized using TA309400, tested on Bouin's fixed, paraffin embedded backskin sections of transgenic mice.