

PRODUCT INFORMATION

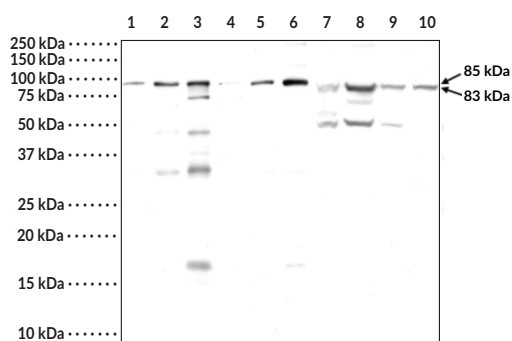


Hsp90 Polyclonal Antibody Item No. 24559

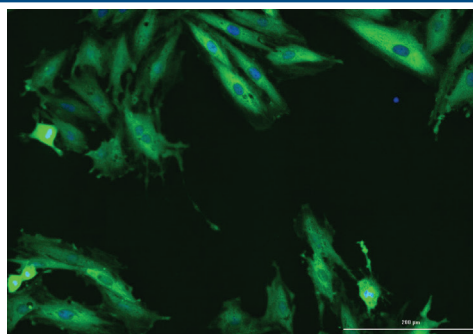
Overview and Properties

Contents:	This vial contains 500 µl of protein affinity-purified polyclonal antibody.
Synonyms:	Heat Shock 84 kDa, Hsp84, Hsp86, Heat Shock Protein 90, LAP-2, Lipopolysaccharide-associated Protein 2, LPS-associated Protein 2, Renal Carcinoma Antigen NY-REN-38
Immunogen:	Recombinant full-length human Hsp90α and Hsp90β proteins
Cross Reactivity:	(+) Hsp90α and Hsp90β
Species Reactivity:	(+) Human, mouse, and rat; other species not tested
Uniprot No.:	P07900 (Hsp90α), P08238 (Hsp90β)
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	ELISA, Immunofluorescence (IF), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for ELISA is 1:500, 1:40 for IHC, and 1:200 for IF and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

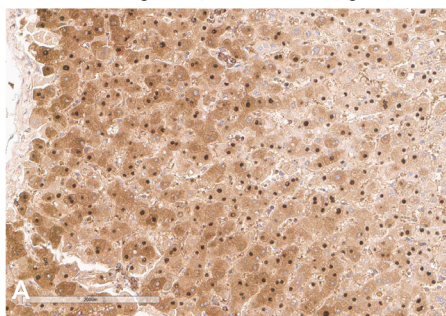
Images



Lane 1: Hsp90α Recombinant Protein (0.005 µg)
Lane 2: Hsp90α Recombinant Protein (0.02 µg)
Lane 3: Hsp90α Recombinant Protein (0.1 µg)
Lane 4: Hsp90β Recombinant Protein (0.005 µg)
Lane 5: Hsp90β Recombinant Protein (0.02 µg)
Lane 6: Hsp90β Recombinant Protein (0.1 µg)
Lane 7: A549 Cell Lysate (50 µg)
Lane 8: HeLa Heat Shock Cell Lysate (30 µg)
Lane 9: Mouse Kidney (40 µg)
Lane 10: Rat Intestine (40 µg)



Immunofluorescent staining of H9C2 (rat myoblast) cells. Hsp90 Polyclonal Antibody at dilution of 1:200 followed by Goat Anti-Rabbit IgG FITC (Item No. 10006588) (green) and Hoechst nuclear stain (blue).



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human liver tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Hsp90 Polyclonal Antibody (Item No. 24559) at a 1:40 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Hsp90 is a multidomain protein that functions as a molecular chaperone to assist in folding and activation of nascent peptides, refolding unfolded or misfolded proteins, and preventing protein aggregation.¹ Hsp90 α is the inducible cytosolic isoform of Hsp90 while Hsp90 β is the constitutively active cytosolic isoform. Hsp90 α and β are encoded by *HSP90AA* and *HSP90AB*, respectively in humans.² C-terminal dimerization of Hsp90, coupled with ATPase molecular clamp activity induces a conformational change in the N-terminal nucleotide binding domain that facilitates substrate binding and initiates the chaperone cycle.³ Hsp90 interacts with many co-chaperones during its chaperone cycle including p23 and Sba1, which help recruit substrates to the Hsp90 complex, Hsp70 (Item Nos. 22739 | 23002), which loads nascent polypeptides onto the Hsp90 dimer, and the ATPase activator Aha1 that promotes ATP hydrolysis and substrate release.^{4,5} Hsp90 is overexpressed in cancer cells and stabilizes client proteins that promote oncogenesis, including transcription factors, signaling proteins, and kinases.^{2,5} Hsp90 also decreases α -synuclein fibril formation and toxicity as well as Q35 aggregation in *in vitro* models of Parkinson's and Huntington's disease, respectively, implying a role in neurodegenerative disease.⁶ Cayman's Hsp90 α / β Polyclonal Antibody can be used for Western blot and ELISA applications. This antibody recognizes Hsp90 α at 85 kDa and Hsp90 β at 83 kDa from human, mouse, and rat samples.

References

1. Fink, A.L. Chaperone-mediated protein folding. *Physiol. Rev.* **79**(2), 425-449 (1999).
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3. Prodromou, C., Panaretou, B., Chohan, S., *et al.* The ATPase cycle of Hsp90 drives a molecular 'clamp' via transient dimerization of the N-terminal domains. *EMBO Journal* **19**(16), 4383-4392 (2000).
4. Ali, M.M.U., Roe, S.M., Vaughan, C.K., *et al.* Crystal structure of an Hsp90-nucleotide-p23/Sba1 closed chaperone complex. *Nature* **440**(7087), 1013-1017 (2006).
5. Li, J. and Buchner, J. Structure, function and regulation of the hsp90 machinery. *Biomed. J.* **36**(3), 106-117 (2013).
6. Lackie, R.E., Maciejewski, A., Ostapchenko, V.G., *et al.* The Hsp70/Hsp90 chaperone machinery in neurodegenerative diseases. *Front. Neurosci.* **11**:254, (2017).

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