PRODUCT INFORMATION

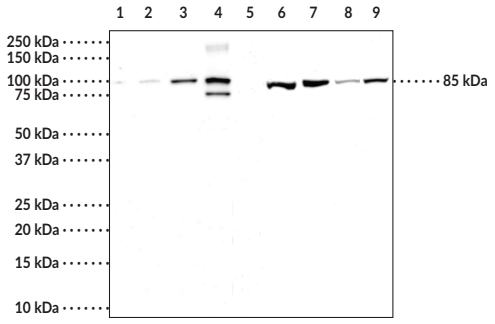
Hsp90α Polyclonal Antibody

Item No. 25725

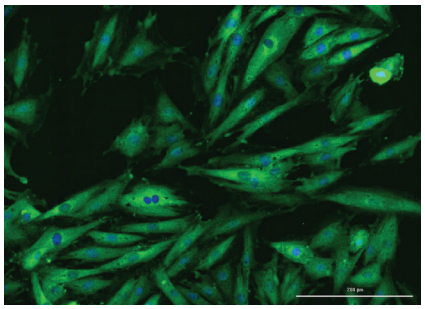
Overview and Properties

Contents:	This vial contains 500 µl of protein affinity-purified polyclonal antibody.
Synonyms:	Heat Shock 86 kDa, Heat Shock Protein 90α, Hsp 86, LPS-Associated Protein 2, Renal Carcinoma Antigen NY-REN-38
Immunogen:	Human recombinant Hsp90α protein
Cross Reactivity:	(-) Hsp90β
Species Reactivity:	(+) Human, mouse, and rat; other species not tested
Uniprot No.:	P07900
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.

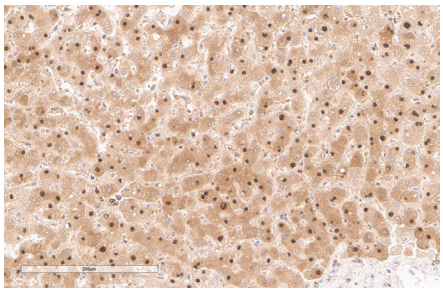
Images



Lane 1: Hsp90α Recombinant Protein (0.001 µg)
Lane 2: Hsp90α Recombinant Protein (0.005 µg)
Lane 3: Hsp90α Recombinant Protein (0.02 µg)
Lane 4: Hsp90α Recombinant Protein (0.1 µg)
Lane 5: Hsp90β Recombinant Protein (0.1 µg) [negative control]
Lane 6: A549 Cell Lysate (50 µg)
Lane 7: HeLa Heat Shock Cell Lysate (30 µg)
Lane 8: Mouse kidney (40 µg)
Lane 9: Rat intestine (40 µg)



Immunofluorescent staining of H9C2 (rat myoblast) cells. Hsp90α Polyclonal Antibody at dilution of 1:40 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 Hsp90α Polyclonal Antibody (Item No. 25725) at a 1:40 dilution slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

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Description

Heat shock protein 90 α (Hsp90α) is the inducible cytosolic isoform of Hsp90 that is encoded by *HSP90AA* in humans.[1] 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.[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.[1,5] 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 Hsp90α Polyclonal Antibody can be used for Western blot and ELISA applications. This antibody recognizes Hsp90α at 85 kDa from human, mouse, and rat samples.

References

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2. Fink, A.L. Chaperone-mediated protein folding. *Physiol. Rev.* **79(2)**, 425-449 (1999).
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 J.* **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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