PRODUCT INFORMATION

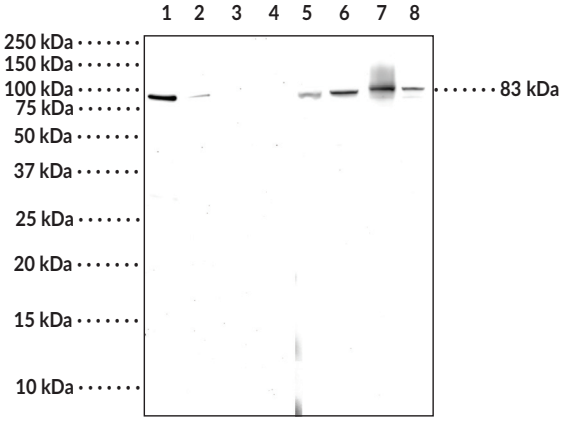
Hsp90β Monoclonal Antibody (Clone 8D6)

Item No. 25695

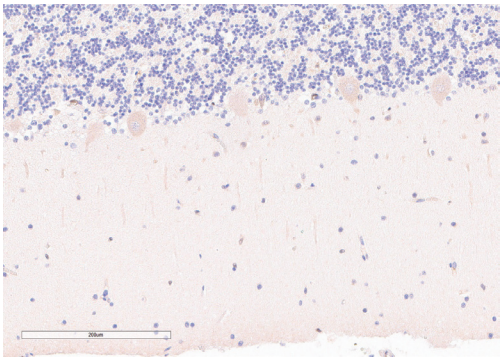
Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified antibody.
Synonyms:	Heat Shock 84 kDa, Heat Shock Protein Hsp 90-Beta, Hsp84, Hsp90β
Immunogen:	Full length human recombinant Hsp90β protein
Cross Reactivity:	(-) HSP90α
Species Reactivity:	(+) Human, mouse, and rat; other species not tested
Uniprot No.:	P08238
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol, and 0.02% sodium azide
Clone:	8D6
Host:	Mouse
Isotype:	IgG2b
Applications:	ELISA, Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:1,000 and is 1:40 for IHC. Other applications were not tested, therefore optimal working dilution should be determined empirically.

Images



Lane 1: Hsp90β Recombinant Protein (0.02 µg)
Lane 2: Hsp90β Recombinant Protein (0.005 µg)
Lane 3: Hsp90β Recombinant Protein (0.001 µg)
Lane 4: Hsp90α Recombinant Protein (0.1 µg)
Lane 5: A549 Cell Lysate (50 µg)
Lane 6: THP-1 Cell Lysate (50 µg)
Lane 7: Mouse Kidney Lysate (40 µg)
Lane 8: Rat Intestine Lysate (40 µg)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human cerebellum tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Hsp90β Monoclonal Antibody (Clone 8D6) (Item No. 25695) 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 β (Hsp90β) is the constitutively active cytosolic isoform of Hsp90 that is encoded by *HSP90AB* 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 Hsp90β Monoclonal Antibody (Clone8D6) can be used for Western blot and ELISA applications. This antibody recognizes Hsp90β at 83 kDa from human, mouse, and rat samples.

References

1. Chen, B., Piel, W.H., Gui, L., *et al.* The HSP90 family of genes in the human genome: Insights into their divergence and evolution. *Genomics* **86(6)**, 627-637 (2005).
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).
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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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