PRODUCT INFORMATION

Hsp90 Monoclonal Antibody (Clone AC-16)

Item No. 10011431

Overview and Properties

Contents:	This vial contains protein G affinity-purified IgG at a concentration of 1 mg/ml in PBS, pH 7.4, containing sodium azide in 50% glycerol.
Synonyms:	Heat Shock Protein 90
Immunogen:	Hsp90 from the water mold *Achlya ambisexualis*
Cross Reactivity:	(+) Human, rabbit, rat, mouse, chicken, *Achlya*, wheat germ, and *Sf9* cell line Hsp90; (-) native form *E.coli* and yeast Hsp90. This antibody is reactive with both constitutive and the inducible forms of Hsp90.
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly
Clone:	AC-16
Host:	Mouse
Isotype:	IgG_{2b}
Applications:	Western blot (WB). The recommended starting concentration for WB is 1 µg/ml, which has been shown to be sufficient for detection of Hsp90 in 20 µg of HeLa lysate. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

Description

Hsp90 is an 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 signalling.[5,6] The number of proteins now known 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 cytocolic heterocomplexs with it. In a number of cases, variations in Hsp90 expression or Hsp90 mutation has been shown to degrade signalling 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 radical, inhibit Hsp90 function.[7]

References

1. Arlander, S.J.H., Eapen, A.K., Vroman, B.T., *et al. J. Biol. Chem.* **278(52)**, 52572-52577 (2003).
2. Pearl, L.H. and Prodromou, C. . *Advances in Protein Chemistry* **59**, 157-172 (2001).
3. Neckers, L. *Trends in Molecular Medicine* **8(4 Suppl.)**, S55-S61 (2002).
4. Pratt, W.B. and Toft, D.O. *Exp. Biol. Med.* **228**, 111-133 (2003).
5. Pratt, W.B. and Toft, D.O. *Endocr. Rev.* **18(3)**, 306-360 (1997).
6. Pratt, W.B. *Proc. Soc. Exp. Biol. Med.* **217**, 420-434 (1998).
7. Whitesell, L., Mimnaugh, E.G., De Costa, B., *et al. Proc. Natl. Acad. Sci. USA* **91**, 8324-8328 (1994).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM