

# HSP 90 (AC-16): sc-101494

## BACKGROUND

The heat shock response was first described for *Drosophila* salivary gland cells and morphologically consists of a change in their polytene chromosome puffing patterns that involves *de novo* synthesis of a few proteins. Similar heat shock proteins were later discovered in bacterial, chicken and mammalian cells, and have been subsequently studied in other organisms. A series of proteins, including HSP 90, HSP 70, HSP 20-30 and ubiquitin, are induced by insults such as temperature shock, chemicals and other environmental stress. A major function of HSP 90 and other HSPs is to act as molecular chaperones. HSP 90 forms a complex with glucocorticoid receptor (GR), rendering the non ligand-bound receptor transcriptionally inactive. HSP 90 binds the GR as a heterocomplex composed of either HSP 56 or Cyclophilin D, forming an aporeceptor complex. HSP 90 also exists as a dimer with other proteins such as p60/ST11 and p23, forming an apo-receptor complex with estrogen and androgen receptors.

## REFERENCES

1. Wu, J.M., et al. 2003. PKC  $\epsilon$  is a unique regulator for HSP 90 $\beta$  gene in heat shock response. *J. Biol. Chem.* 278: 51143-51149.
2. Whitesell, L., et al. 2005. HSP 90 and the chaperoning of cancer. *Nat. Rev. Cancer* 5: 761-772.

## SOURCE

HSP 90 (AC-16) is a mouse monoclonal antibody raised against purified full length native HSP 90 of *Achlya ambisexualis* origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HSP 90 (AC-16) is available conjugated to agarose (sc-101494 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101494 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101494 PE), fluorescein (sc-101494 FITC), Alexa Fluor<sup>®</sup> 488 (sc-101494 AF488), Alexa Fluor<sup>®</sup> 546 (sc-101494 AF546), Alexa Fluor<sup>®</sup> 594 (sc-101494 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-101494 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-101494 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-101494 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

HSP 90 (AC-16) is recommended for detection of the constitutive and inducible forms of HSP90 of mouse, rat, human, avian and rabbit origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with the native form of HSP 90 or *E. coli* and yeast HSP 90.

Suitable for use as control antibody for HSP 90 $\alpha$ / $\beta$  siRNA (h): sc-35608, HSP 90 $\alpha$ / $\beta$  siRNA (m): sc-35610, HSP 90 $\alpha$ / $\beta$  shRNA Plasmid (h): sc-35608-SH, HSP 90 $\alpha$ / $\beta$  shRNA Plasmid (m): sc-35610-SH, HSP 90 $\alpha$ / $\beta$  shRNA (h) Lentiviral Particles: sc-35608-V, HSP 90 $\alpha$ / $\beta$  shRNA (m) Lentiviral Particles: sc-35610-V.

Positive Controls: HeLa whole cell lysate: sc-2200.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## SELECT PRODUCT CITATIONS

1. Wang, S.A., et al. 2009. Heat shock protein 90 is important for Sp1 stability during mitosis. *J. Mol. Biol.* 387: 1106-1119.
2. Serrano-Marco L., et al. 2011. Activation of peroxisome proliferator-activated receptor- $\beta$ - $\delta$  (PPAR- $\beta$ - $\delta$ ) ameliorates Insulin signaling and reduces SOCS3 levels by inhibiting STAT3 in interleukin-6-stimulated adipocytes. *Diabetes* 60: 1990-1999.
3. Cecarini, V., et al. 2012. Crosstalk between the ubiquitin-proteasome system and autophagy in a human cellular model of Alzheimer's disease. *Biochim. Biophys. Acta* 1822: 1741-1751.
4. Zarbock R., et al. 2012. The surfactant protein C mutation A116D alters cellular processing, stress tolerance, surfactant lipid composition, and immune cell activation. *BMC Pulm. Med.* 12: 15.
5. Henckels, E. and Prywes, R. 2013. Fra-1 regulation of matrix metalloproteinase-1 (MMP-1) in metastatic variants of MDA-MB-231 breast cancer cells. *F1000Res.* 2: 229.
6. Bisicchia, E., et al. 2013. Activation of type-2 cannabinoid receptor inhibits neuroprotective and antiinflammatory actions of glucocorticoid receptor  $\alpha$ : when one is better than two. *Cell. Mol. Life Sci.* 70: 2191-2204.
7. McGuirk, S., et al. 2013. PGC-1 $\alpha$  supports glutamine metabolism in breast cancer. *Cancer Metab.* 1: 22.
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12. Link, L.A., et al. 2016. PCBP1/HNRNP E1 protects chromosomal integrity by translational regulation of CDC27. *Mol. Cancer Res.* 14: 634-646.
13. Chen, C.D., et al. 2016. High estradiol concentrations induce heat shock protein 70 expression and suppress nuclear factor- $\kappa$ B activation in human endometrial epithelial cells. *Biol. Rep.* 95: 87.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

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