HSP 90 (h): 293T Lysate: sc-114003



The Power to Question

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/STI1 and p23, forming an aporeceptor complex with estrogen and androgen receptors.

REFERENCES

- 1. Wu, J.M., et al. 2003. PKC ϵ is a unique regulator for HSP 90 β gene in heat shock response. J. Biol. Chem. 278: 51143-51149.
- Whitesell, L., et al. 2005. HSP 90 and the chaperoning of cancer. Nat. Rev. Cancer 5: 761-772.
- 3. Cowen, L.E., et al. 2005. HSP 90 potentiates the rapid evolution of new traits: drug resistance in diverse fungi. Science 309: 2185-2189.
- 4. Aoyagi, S., et al. 2005. Modulating molecular chaperone HSP 90 functions through reversible acetylation. Trends Cell Biol. 15: 565-567.
- Chen, B., et al. 2005. The HSP 90 family of genes in the human genome: insights into their divergence and evolution. Genomics 86: 627-637.
- 6. Zhao, R., et al. 2005. HSP 90: a chaperone for protein folding and gene regulation. Biochem. Cell Biol. 83: 703-710.
- 7. Wegele, H., et al. 2005. Substrate transfer from the chaperone HSP 70 to HSP 90. J. Mol. Biol. 356: 802-811.
- 8. Yang, K., et al. 2006. HSP 90 regulates activation of IRF-3 and TBK1 stabilization in Sendai virus-infected cells. Mol. Biol. Cell 17: 1461-1471.
- 9. Allan, R.K., et al. 2006. The carboxy-terminal domain of HSP 90: modulation of chaperone function and cochaperone interaction by Novobiocin. Evidence that coumarin antibiotics disrupt HSP 90 dimerization. J. Biol. Chem. 281: 7161-7171.

CHROMOSOMAL LOCATION

Genetic locus: HSP90AA1 (human) mapping to 14q32.31.

PRODUCT

HSP 90 (h): 293T Lysate represents a lysate of human HSP 90 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

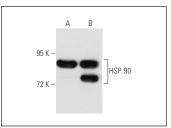
APPLICATIONS

HSP 90 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive HSP 90 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

HSP 90 (4F10): sc-69703 is recommended as a positive control antibody for Western Blot analysis of enhanced human HSP 90 expression in HSP 90 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



HSP 90 (4F10): sc-69703. Western blot analysis of HSP 90 expression in non-transfected: sc-117752 (**A**) and human HSP 90 transfected: sc-114003 (**B**) 2931 whole cell lyestes

RESEARCH USE

For research use only, not for use in diagnostic procedures

PROTOCOLS

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