SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 90 (4F10): sc-69703

SANTA CRUZ BIOTECHNOLOGY

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 90b 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.

CHROMOSOMAL LOCATION

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

SOURCE

HSP 90 (4F10) is a mouse monoclonal antibody raised against full length recombinant HSP 90 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 1% glycerol.

APPLICATIONS

HSP 90 (4F10) is recommended for detection of HSP 90 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HSP 90α/β siRNA (h): sc-35608, HSP 90α/β shRNA Plasmid (h): sc-35608-SH and HSP 90α/β shRNA (h) Lentiviral Particles: sc-35608-V.

Molecular Weight of HSP 90: 90 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or HSP 90 (h): 293T Lysate: sc-114003.

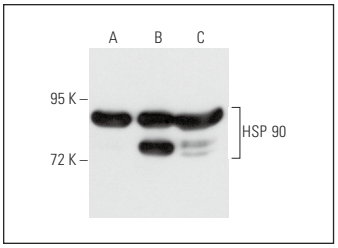
STORAGE

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

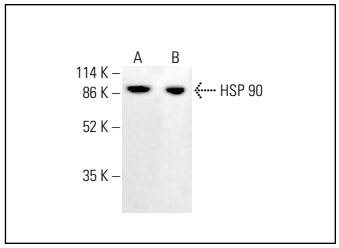
RESEARCH USE

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

DATA



HSP 90 (4F10): sc-69703. Western blot analysis of HSP 90 expression in non-transfected 293T: sc-117752 (**A**), human HSP 90 transfected 293T: sc-114003 (**B**) and HeLa (**C**) whole cell lysates.



HSP 90 (4F10): sc-69703. Western blot analysis of HSP 90 expression in K-562 (**A**) and HCT-116 (**B**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Schachter, K.A., et al. 2006. Dynamic positive feedback phosphorylation of mixed lineage kinase 3 by JNK reversibly regulates its distribution to Triton-soluble domains. J. Biol. Chem. 281: 19134-19144.
2. Liu, X., et al. 2016. Androgen ablation elicits PP1-dependence for AR stabilization and transactivation in prostate cancer. Prostate 76: 649-661.
3. Kaisari, S., et al. 2017. Role of CCT chaperonin in the disassembly of mitotic checkpoint complexes. Proc. Natl. Acad. Sci. USA 114: 956-961.
4. Miloudi, H., et al. 2018. STAT6 is a cargo of exportin 1: biological relevance in primary mediastinal B-cell lymphoma. Cell. Signal. 46: 76-82.
5. Lee, Y.M., et al. 2019. Thymoquinone selectively kills hypoxic renal cancer cells by suppressing HIF-1α-mediated glycolysis. Int. J. Mol. Sci. 20: 1092.
6. Wang, Y.L., et al. 2020. *Buxus* alkaloid compound destabilizes mutant p53 through inhibition of the HSF1 chaperone axis. Phytomedicine 68: 153187.
7. Huang, J., et al. 2021. Combined effects of low-dose gambogic acid and NaI131 in drug-resistant non-small cell lung cancer cells. Oncol. Lett. 22: 588.
8. Yun, M., et al. 2022. PPDPF promotes the progression and acts as an antiapoptotic protein in non-small cell lung cancer. Int. J. Biol. Sci. 18: 214-228.
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10. Hoyer, M.J., et al. 2024. Combinatorial selective ER-phagy remodels the ER during neurogenesis. Nat. Cell Biol. 26: 378-392.
11. Neugebauer, E., et al. 2025. Herpesviruses mimic zygotic genome activation to promote viral replication. Nat. Commun. 16: 710.