SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 90α (aC-14): sc-33997

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 stres 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 comiplex. HSP 90 also exists as a dimer with other proteins such as p60/sti1 and p23, forming an apo-receptor complex with estrogen and androgen receptors.

REFERENCES

1. Wu, J.M., et al. 2003. PKC ε is a unique regulator for HSP 90β 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.
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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: HSP90AA1 (human) mapping to 14q32.33, Hsp90aa1 (mouse) mapping to 12 F1.

SOURCE

HSP 90α (aC-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HSP 90α of *Arabidopsis thaliana* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33997 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

HSP 90α (aC-14) is recommended for detection of HSP 90α and HSP 83 of *Arabidopsis thaliana* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of HSP 90α: 90 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.