SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 90α (F-2): sc-515081

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 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.

CHROMOSOMAL LOCATION

Genetic locus: HSP90AA1 (human) mapping to 14q32.31, HSP90AB1 (human) mapping to 6p21.1; Hsp90aa1 (mouse) mapping to 12 F1.

SOURCE

HSP 90α (F-2) is a mouse monoclonal antibody raised against amino acids 342-382 mapping within an internal region of HSP 90α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HSP 90α (F-2) is available conjugated to agarose (sc-515081 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515081 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515081 PE), fluorescein (sc-515081 FITC), Alexa Fluor® 488 (sc-515081 AF488), Alexa Fluor® 546 (sc-515081 AF546), Alexa Fluor® 594 (sc-515081 AF594) or Alexa Fluor® 647 (sc-515081 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515081 AF680) or Alexa Fluor® 790 (sc-515081 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

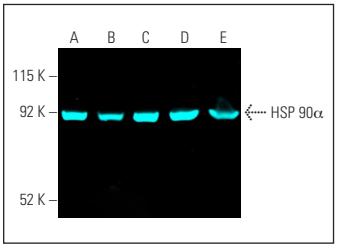
HSP 90α (F-2) is recommended for detection of HSP 90α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) 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 siRNA (m): sc-35610, HSP 90α/β siRNA (r): sc-156099, HSP 90α/β shRNA Plasmid (h): sc-35608-SH, HSP 90α/β shRNA Plasmid (m): sc-35610-SH, HSP 90α/β shRNA Plasmid (r): sc-156099-SH, HSP 90α/β shRNA (h) Lentiviral Particles: sc-35608-V, HSP 90α/β shRNA (m) Lentiviral Particles: sc-35610-V and HSP 90α/β shRNA (r) Lentiviral Particles: sc-156099-V.

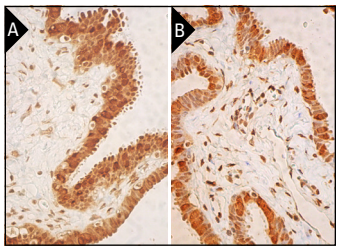
Molecular Weight of HSP 90α: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Y79 cell lysate: sc-2240 or A-431 whole cell lysate: sc-2201.

DATA



HSP 90α (F-2) Alexa Fluor® 647: sc-515081 AF647. Direct fluorescent western blot analysis of HSP 90α expression in HeLa (**A**), KNRK (**B**), Y79 (**C**), A-431 (**D**) and Jurkat (**E**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



HSP 90α (F-2): sc-515081. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and nuclear staining of glandular cells. Detected with m-IgG_1 BP-HRP: sc-525408 (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and nuclear staining of glandular cells. Detected with m-IgG Fc BP-HRP: sc-525409 (**B**).

SELECT PRODUCT CITATIONS

1. Yang, K., et al. 2010. Expression of PAH-DNA adducts in lung tissues of Xuanwei female lung cancer patients. Zhongguo Fei Ai Za Zhi 13: 517-521.
2. Zhang, S., et al. 2022. SARS-CoV-2 virus NSP14 impairs NRF2/HMOX1 activation by targeting Sirtuin 1. Cell. Mol. Immunol. 19: 872-882.
3. García-Vílchez, R., et al. 2023. METTL1 promotes tumorigenesis through tRNA-derived fragment biogenesis in prostate cancer. Mol. Cancer 22: 119.
4. Martínez-López, A., et al. 2024. POTEE promotes breast cancer cell malignancy by inducing invadopodia formation through the activation of SUMOylated Rac1. Mol. Oncol. 18: 620-640.

RESEARCH USE

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