SANTA CRUZ BIOTECHNOLOGY, INC.

p-HSP 27 (Ser 82): sc-101700

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

HSP 27 is a constitutively expressed cytoplasmic protein that co-localizes to the nucleus upon stress-induced insult. Heat shock, cytokines and hormones are among the factors that stimulate the synthesis of HSP 27. The intracellular concentration of the mammalian heat shock protein, HSP 27, increases several-fold after heat shock and other metabolic stresses, and is closely associated with the acquisition of thermotolerance. MAP kinase-activated protein kinase-2 phosphorylates HSP 27 on serine residues Ser 15, Ser 78 and Ser 82, which are phosphorylated *in vivo* in response to growth factors and heat shock. Ser 15, Ser 78 and Ser 82 occur in the sequence motif RXXS, which is recognized by ribosomal protein S6 kinase II.

REFERENCES

1. Landry, J.,et al. 1992. Human HSP 27 is phosphorylated at Serines 78 and 82 by heat shock and mitogen-activated kinases that recognize the same amino acid motif as S6 kinase II. J. Biol. Chem. 267: 794-803.
2. Stokoe, D.,et al. 1992. Identification of MAPKAP kinase 2 as a major enzyme responsible for the phosphorylation of the small mammalian heat shock proteins. FEBS Lett. 313: 307-313.
3. Ciocca, D.R., et al. 1993. Biological and clinical implications of heat shock protein 27,000 (HSP 27): a review. J. Natl. Cancer Inst. 85: 1558-1570.

CHROMOSOMAL LOCATION

Genetic locus: HSPB1 (human) mapping to 7q11.23; Hspb1 (mouse) mapping to 5 G2.

SOURCE

p-HSP 27 (Ser 82) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 82 phosphorylated HSP 27 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-HSP 27 (Ser 82) is recommended for detection of Ser 82 phosphorylated HSP 27 of mouse and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

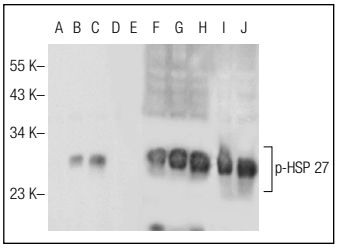
Suitable for use as control antibody for HSP 27 siRNA (h): sc-29350, HSP 27 siRNA (m): sc-35598, HSP 27 shRNA Plasmid (h): sc-29350-SH, HSP 27 shRNA Plasmid (m): sc-35598-SH, HSP 27 shRNA (h) Lentiviral Particles: sc-29350-V and HSP 27 shRNA (m) Lentiviral Particles: sc-35598-V.

Molecular Weight of p-HSP 27: 27 kDa.
Positive Controls: HeLa whole cell lysate : sc-2200, ECV304 cell lysate : sc-2269, or HSP 27 (m): 293T lysate : sc-120910.

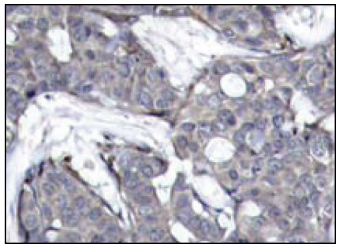
RESEARCH USE

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

DATA



Western blot analysis of HSP 27 phosphorylation in untreated (**A**,**F**), UV irradiated (**B**,**G**), heat shocked (**C**,**H**), UV irradiated and lambda protein phosphatase treated (**D**,**I**) and heat shocked and lambda protein phosphatase (sc-200312A) treated (**E**,**J**) HeLa whole cell lysates. Antibodies tested include p-HSP 27 (Ser 82): sc-101700 (**A**,**B**,**C**,**D**,**E**) and HSP 27 (M-20): sc-1049 (**F**,**G**,**H**,**I**,**J**).



p-HSP 27 (Ser 82): sc-101700. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Grzegrzolka, J., et al. 2012. Hsp-27 expression in invasive ductal breast carcinoma. Folia Histochem. Cytobiol. 50: 527-533.
2. Poussard, S., et al. 2013. A natural antioxidant pine bark extract, Oligopin®, regulates the stress chaperone HSPB1 in human skeletal muscle cells: a proteomics approach. Phytother. Res. 27:1529-1535.
3. Tia, S.Q., et al. 2013. Protein post-translational modification analyses using on-chip immunoprobed isoelectric focusing. Anal. Chem. 85: 2882-2890.

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.