SANTA CRUZ BIOTECHNOLOGY, INC.

HSP 27 (C-20): sc-1048

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The heat shock proteins (HSPs) comprise a group of highly conserved, abundantly expressed proteins with diverse functions, including the assembly and sequestering of multiprotein complexes, transportation of nascent polypeptide chains across cellular membranes and regulation of protein folding. Heat shock proteins (also known as molecular chaperones) fall into six general families: HSP 90, HSP 70, HSP 60, the low molecular weight HSPs, the immunophilins and the HSP 110 family. The low molecular weight family includes HSP 10, HSP 20, HSP 27, HSP 32 and HSP 40. HSP 27 is a constitutively expressed cytoplasmic protein that co-localizes to the nucleus upon stress induced by insult. Heat, cytokines and hormones are among the factors that stimulate the synthesis of HSP 27. *In vitro,* HSP 27 becomes highly phosphorylated following exposure to stress. The discovery that HSP 27 is regulated by hormones such as estrogen has led to studies establishing a relationship between HSP 27 and breast cancer.

CHROMOSOMAL LOCATION

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

SOURCE

HSP 27 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of 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.

Blocking peptide available for competition studies, sc-1048 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-1048 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

HSP 27 (C-20) is recommended for detection of HSP 27 of mouse, rat 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), 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).

HSP 27 (C-20) is also recommended for detection of HSP 27 in additional species, including equine, canine, bovine and porcine.

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 HSP 27: 27 kDa.

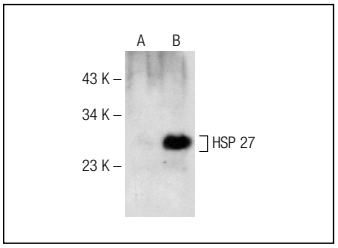
RESEARCH USE

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

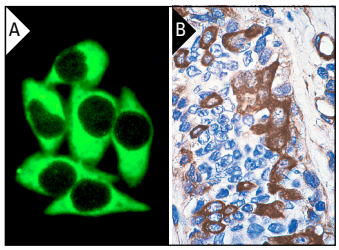
STORAGE

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

DATA



HSP 27 (C-20): sc-1048. Western blot analysis of HSP 27 expression in untreated (**A**) and Lactacystin (sc-3575) treated (**B**) C6 whole cell lysates. Note upregulation of HSP 27 expression in lane **B**.



HSP 27 (C-20): sc-1048. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human breast tissue showing intense cytoplasmic staining of selected cells (**B**).

SELECT PRODUCT CITATIONS

1. Chaturvedi, V., et al. 1999. Apoptosis in proliferating, senescent, and immortalized keratinocytes. J. Biol. Chem. 274: 23358-23367.
2. Almela, P., et al. 2011. Naloxone-precipitated morphine withdrawal evokes phosphorylation of heat shock protein 27 in rat heart through extracellular signal-regulated kinase. J. Mol. Cell. Cardiol. 51: 129-139.
3. Menon, M.B., et al. 2011. SB202190-induced cell type-specific vacuole formation and defective autophagy do not depend on p38 MAP kinase inhibition. PLoS ONE 6: e23054.
4. Chen, C.Y., et al. 2011. Decreased heat shock protein 27 expression and altered autophagy in human cells harboring A8344G mitochondrial DNA mutation. Mitochondrion 11: 739-749.
5. Cappello, F., et al. 2011. Convergent sets of data from *in vivo* and *in vitro* methods point to an active role of Hsp60 in chronic obstructive pulmonary disease pathogenesis. PLoS ONE 6: e28200.
6. Sackmann-Sala, L., et al. 2012. Heterogeneity among white adipose tissue depots in male C57BL/6J mice. Obesity 20: 101-111.
7. Rocchiccioli, S., et al. 2012. Proteomics changes in adhesion molecules: a driving force for vascular smooth muscle cell phenotypic switch. Mol. Biosyst. 8: 1052-1059.
8. Ares-Carrasco S., et al. 2012. Proteome changes in the myocardium of experimental chronic diabetes and hypertension: role of PPARα in the associated hypertrophy. J. Proteomics 75: 1816-1829.

MONOS Satisfaction Guaranteed

Try **HSP 27 (F-4): sc-13132** or **HSP 27 (G3.1): sc-59562**, our highly recommended monoclonal alternatives to HSP 27 (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **HSP 27 (F-4): sc-13132**.