

p-HSP 27 (B-3): sc-166693

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.

CHROMOSOMAL LOCATION

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

SOURCE

p-HSP 27 (B-3) is a mouse monoclonal antibody specific for an epitope containing Ser 82 phosphorylated HSP 27 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-HSP 27 (B-3) is available conjugated to agarose (sc-166693 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166693 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166693 PE), fluorescein (sc-166693 FITC), Alexa Fluor® 488 (sc-166693 AF488), Alexa Fluor® 546 (sc-166693 AF546), Alexa Fluor® 594 (sc-166693 AF594) or Alexa Fluor® 647 (sc-166693 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166693 AF680) or Alexa Fluor® 790 (sc-166693 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166693 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

p-HSP 27 (B-3) is recommended for detection of Ser 82 phosphorylated HSP 27 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:5000-1:50000), 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).

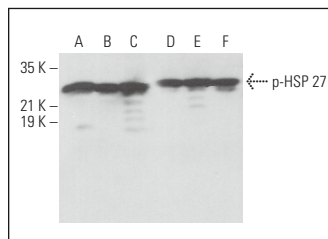
Suitable for use as control antibody for HSP 27 siRNA (h): sc-29350, HSP 27 siRNA (m): sc-35598, HSP 27 siRNA (r): sc-270545, HSP 27 shRNA Plasmid (h): sc-29350-SH, HSP 27 shRNA Plasmid (m): sc-35598-SH, HSP 27 shRNA Plasmid (r): sc-270545-SH, HSP 27 shRNA (h) Lentiviral Particles: sc-29350-V, HSP 27 shRNA (m) Lentiviral Particles: sc-35598-V and HSP 27 shRNA (r) Lentiviral Particles: sc-270545-V.

Molecular Weight of p-HSP 27: 27 kDa.

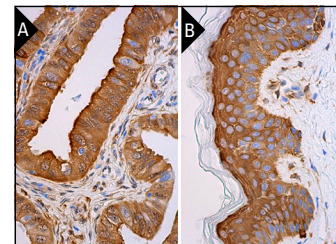
STORAGE

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

DATA



p-HSP 27 (B-3): sc-166693. Western blot analysis of HSP 27 phosphorylation in HeLa (A), F9 (B), A-10 (C), MCF7 (D), HUV-EC-C (E) and ECV304 (F) whole cell lysates.



p-HSP 27 (B-3): sc-166693. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic and nuclear staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing cytoplasmic staining of keratinocytes, fibroblasts and Langerhans cells (B).

SELECT PRODUCT CITATIONS

1. Tsuboi, M., et al. 2017. The transcription factor HOXB7 regulates ERK kinase activity and thereby stimulates the motility and invasiveness of pancreatic cancer cells. *J. Biol. Chem.* 292: 17681-17702.
2. Santiago, J., et al. 2019. First insights on the presence of the unfolded protein response in human spermatozoa. *Int. J. Mol. Sci.* 20: 5518.
3. Summers, C.M. and Valentine, R.J. 2019. Acute heat exposure alters autophagy signaling in C2C12 myotubes. *Front. Physiol.* 10: 1521.
4. Zhu, S., et al. 2021. Combination of mesenchymal stem cell and endothelial progenitor cell infusion accelerates injured intestinal repair by regulating gut microbiota after hematopoietic cell transplantation. *Transplant. Cell. Ther.* 27: 152.e1-152.e9.
5. Silva, J.V., et al. 2022. Effects of age and lifelong moderate-intensity exercise training on rats' testicular function. *Int. J. Mol. Sci.* 23: 11619.
6. Buhr, T.J., et al. 2023. The persistence of stress-induced physical inactivity in rats: an investigation of central monoamine neurotransmitters and skeletal muscle oxidative stress. *Front. Behav. Neurosci.* 17: 1169151.
7. Lisi, V., et al. 2023. Plasma-derived extracellular vesicles released after endurance exercise exert cardioprotective activity through the activation of antioxidant pathways. *Redox Biol.* 63: 102737.
8. Kitano, T., et al. 2023. Induction by rapamycin and proliferation-promoting activity of Hspb1 in a Tsc2-deficient cell line. *Exp. Ther. Med.* 26: 315.
9. Kim, S.A., et al. 2024. Soluble klotho induces the heat shock factor 1 through EGR1 expression. *Biofactors* 50: 1039-1053.

RESEARCH USE

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

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