

HSP 27 (HSP25-19): sc-51956

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.

REFERENCES

1. Ritossa, F. 1962. A new puffing pattern induced by temperature shock and DNP in *Drosophila*. *Experientia* 18: 571-573.
2. Lemeaux, P.G., et al. 1978. Transient rates of synthesis of individual polypeptides in *E. coli* following temperature shifts. *Cell* 13: 427-434.

CHROMOSOMAL LOCATION

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

SOURCE

HSP 27 (HSP25-19) is a mouse monoclonal antibody raised against recombinant HSP27 of chicken origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml PBS with <0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HSP 27 (HSP25-19) is recommended for detection of HSP 27 of mouse, rat, human and chicken 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)] and immunofluorescence (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 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.

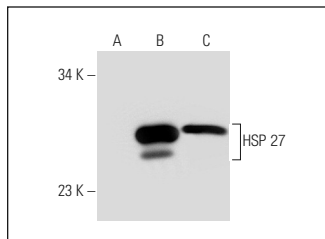
Molecular Weight of HSP 27: 27 kDa.

Positive Controls: HSP 27 (m): 293T Lysate: sc-120910, ECV304 cell lysate: sc-2269 or HSP 27 (h2): 293T Lysate: sc-174711.

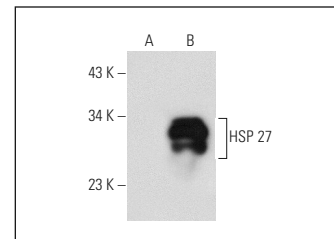
STORAGE

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

DATA



HSP 27 (HSP25-19): sc-51956. Western blot analysis of HSP 27 expression in non-transfected 293T: sc-117752 (A), mouse HSP 27 transfected 293T: sc-120910 (B) and ECV304 (C) whole cell lysates.



HSP 27 (HSP25-19): sc-51956. Western blot analysis of HSP 27 expression in non-transfected: sc-117752 (A) and human HSP 27 transfected: sc-174711 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Cao, Z., et al. 2011. Proteomic analysis of chicken embryonic trachea and kidney tissues after infection in ovo by avian infectious bronchitis coronavirus. *Proteome Sci.* 9: 11.
2. Chung, E., et al. 2012. Response of preosteoblasts to thermal stress conditioning and osteoinductive growth factors. *Cell Stress Chaperones* 17: 203-214.
3. Cao, Z., et al. 2012. Proteomics analysis of differentially expressed proteins in chicken trachea and kidney after infection with the highly virulent and attenuated coronavirus infectious bronchitis virus *in vivo*. *Proteome Sci.* 10: 24.
4. Wang, S.H., et al. 2014. Changes in protein expression in testes of L2 strain Taiwan country chickens in response to acute heat stress. *Theriogenology* 82: 80-94.
5. Sun, J., et al. 2014. Comparative proteome analysis of tracheal tissues in response to infectious bronchitis coronavirus, newcastle disease virus, and avian influenza virus H9 subtype virus infection. *Proteomics* 14: 1403-1423.

RESEARCH USE

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

PROTOCOLS

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



See **HSP 27 (F-4): sc-13132** for HSP 27 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.