SANTA CRUZ BIOTECHNOLOGY, INC.

HSPB7 (S-13): sc-103557

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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 small HSPs, the immunophilins and the HSP 110 family. HSPB7 (heat shock 27 kDa protein family, member 7), also known as cvHSP (cardiovascular heat shock protein) or heat shock protein β-7, is a member of the small HSP (sHSP) family expressed in heart and skeletal muscle. Members of the sHSP family contain a conserved C-terminal α-crystallin domain and typically function in homo- or heteromeric complexes. The sHSPs bind to denatured proteins and are responsible for preventing the aggregation of these proteins. In response to muscle fiber transformation and in muscular dystrophy, the expression levels of HSPB7 are drastically increased, suggesting that HSPB7 may be a useful target in therapeutic strategies for preventing age-related muscle wasting.

REFERENCES

1. Krief, S., et al. 1999. Identification and characterization of cvHSP. A novel human small stress protein selectively expressed in cardiovascular and Insulin-sensitive tissues. J. Biol. Chem. 274: 36592-36600.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610692. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Kappé, G., et al. 2003. The human genome encodes 10 α-crystallin-related small heat shock proteins: HSPB1-10. Cell Stress Chaperones 8: 53-61.
4. Fontaine, J.M., et al. 2003. The sperm outer dense fiber protein is the 10th member of the superfamily of mammalian small stress proteins. Cell Stress Chaperones 8: 62-69.
5. Sun, X., et al. 2004. Interaction of human HSP 22 (HSPB8) with other small heat shock proteins. J. Biol. Chem. 279: 2394-2402.
6. Fontaine, J.M., et al. 2005. Interactions of HSP 22 (HSPB8) with HSP 20, αB-crystallin, and HSPB3. Biochem. Biophys. Res. Commun. 337: 1006-1011.

CHROMOSOMAL LOCATION

Genetic locus: HSPB7 (human) mapping to 1p36.13; Hspb7 (mouse) mapping to 4 E1.

SOURCE

HSPB7 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HSPB7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103557 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HSPB7 (S-13) is recommended for detection of HSPB7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HSPB7 siRNA (h): sc-78757, HSPB7 siRNA (m): sc-105547, HSPB7 shRNA Plasmid (h): sc-78757-SH, HSPB7 shRNA Plasmid (m): sc-105547-SH, HSPB7 shRNA (h) Lentiviral Particles: sc-78757-V and HSPB7 shRNA (m) Lentiviral Particles: sc-105547-V.

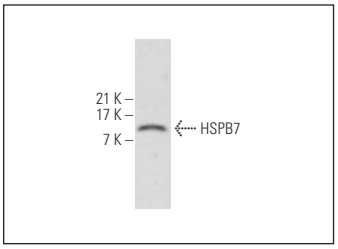
Molecular Weight of HSPB7: 25 kDa.

Positive Controls: Sol8 cell lysate: sc-2249.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HSPB7 (S-13): sc-103557. Western blot analysis of HSPB7 expression in Sol8 whole cell lysate.

STORAGE

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

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **HSPB7 (F-4): sc-393739** or **HSPB7 (SQ-37): sc-100759**, our highly recommended monoclonal alternatives to HSPB7 (S-13).