SANTA CRUZ BIOTECHNOLOGY, INC.

HSPB2 (F-9): sc-514154

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 multi-protein complexes, transportation of nascent polypeptide chains across cellular membranes and regulation of protein folding. HSPB2 (heat shock 27 kDa protein 2), also known as HSP 27 or MKBP, is a 182 amino acid protein that belongs to the heat shock protein family and is expressed preferentially in heart and skeletal muscle. Localized to mitochondria, HSPB2 functions as an ATP-dependent chaperone protein that plays a role in the refolding of denatured proteins and may also interact with the Actin cytoskeleton and prevent apoptotic cell death. HSPB2 is abundantly expressed in several cancer cell lines, suggesting that HSPB2 may be an important factor in tumor transformation and metastasis.

REFERENCES

1. Suzuki, A., et al. 1998. MKBP, a novel member of the small heat shock protein family, binds and activates the myotonic dystrophy protein kinase. J. Cell Biol. 140: 1113-1124.
2. Concannon, C.G., et al. 2003. On the role of HSP27 in regulating apoptosis. Apoptosis 8: 61-70.
3. Wen, F.C., et al. 2003. Down-regulation of heat shock protein 27 in neuronal cells and non-neuronal cells expressing mutant ataxin-3. FEBS Lett. 546: 307-314.

CHROMOSOMAL LOCATION

Genetic locus: HSPB2 (human) mapping to 11q23.1; Hspb2 (mouse) mapping to 9 A5.3.

SOURCE

HSPB2 (F-9) is a mouse monoclonal antibody raised against amino acids 36-110 mapping within an internal region of HSPB2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HSPB2 (F-9) is available conjugated to agarose (sc-514154 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514154 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514154 PE), fluorescein (sc-514154 FITC), Alexa Fluor® 488 (sc-514154 AF488), Alexa Fluor® 546 (sc-514154 AF546), Alexa Fluor® 594 (sc-514154 AF594) or Alexa Fluor® 647 (sc-514154 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514154 AF680) or Alexa Fluor® 790 (sc-514154 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

HSPB2 (F-9) is recommended for detection of HSPB2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

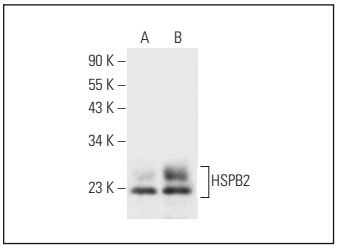
Suitable for use as control antibody for HSPB2 siRNA (h): sc-96438, HSPB2 siRNA (m): sc-146101, HSPB2 shRNA Plasmid (h): sc-96438-SH, HSPB2 shRNA Plasmid (m): sc-146101-SH, HSPB2 shRNA (h) Lentiviral Particles: sc-96438-V and HSPB2 shRNA (m) Lentiviral Particles: sc-146101-V.

Molecular Weight (predicted) of HSPB2: 20 kDa.

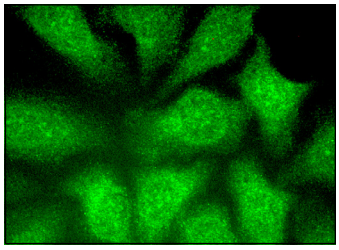
Molecular Weight (observed) of HSPB2: 24 kDa.

Positive Controls: human skeletal muscle extract: sc-363776 or human heart extract: sc-363763.

DATA



HSPB2 (F-9): sc-514154. Western blot analysis of HSPB2 expression in human skeletal muscle (**A**) and human heart (**B**) tissue extracts.



HSPB2 (F-9): sc-514154. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. La Padula, V., et al. 2016. HSPB3 protein is expressed in motoneurons and induces their survival after lesion-induced degeneration. Exp. Neurol. 286: 40-49.
2. Gianniou, D.D., et al. 2023. Evaluation of the small heat shock protein family members HSPB2 and HSPB3 in bladder cancer prognosis and progression. Int. J. Mol. Sci. 24: 2609.

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.