

# HSPB2 (6): sc-136339

## 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.
4. Mao, H., et al. 2003. hsp72 inhibits focal adhesion kinase degradation in ATP-depleted renal epithelial cells. *J. Biol. Chem.* 278: 18214-18220.
5. Parcellier, A., et al. 2003. HSP27 is a ubiquitin-binding protein involved in I $\kappa$ B $\alpha$  proteasomal degradation. *Mol. Cell. Biol.* 23: 5790-5802.
6. An, S.S., et al. 2004. Role of heat shock protein 27 in cytoskeletal remodeling of the airway smooth muscle cell. *J. Appl. Physiol.* 96: 1701-1713.

## CHROMOSOMAL LOCATION

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

## SOURCE

HSPB2 (6) is a mouse monoclonal antibody raised against amino acids 36-158 of HSPB2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HSPB2 (6) is available conjugated to agarose (sc-136339 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136339 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA.

## STORAGE

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

## APPLICATIONS

HSPB2 (6) is recommended for detection of HSPB2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 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.

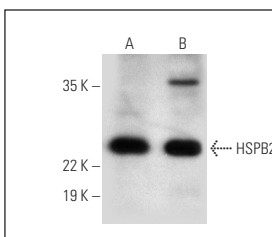
Molecular Weight (observed) of HSPB2: 24 kDa.

Positive Controls: rat heart extract: sc-2393, human skeletal muscle extract: sc-363776 or human heart extract: sc-363763.

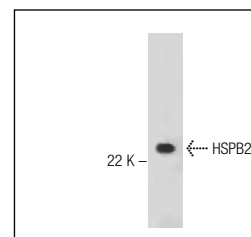
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



HSPB2 (6): sc-136339. Western blot analysis of HSPB2 expression in human skeletal muscle (A) and human heart (B) tissue extracts.



HSPB2 (6): sc-136339. Western blot analysis of HSPB2 expression in rat heart tissue extract.

## SELECT PRODUCT CITATIONS

1. Morelli, F.F., et al. 2017. Aberrant compartment formation by HSPB2 mislocalizes lamin A and compromises nuclear integrity and function. *Cell Rep.* 20: 2100-2115.
2. Morelli, F.F., et al. 2017. An interaction study in mammalian cells demonstrates weak binding of HSPB2 to BAG3, which is regulated by HSPB3 and abrogated by HSPB8. *Cell Stress Chaperones* 22: 531-540.

## RESEARCH USE

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