

# HSBP1 (2C3): sc-517153

## BACKGROUND

Prokaryotic and eukaryotic cells respond to thermal and chemical stress by inducing a group of genes collectively designated heat shock genes. In eukaryotes, this gene expression is regulated primarily at the transcription level. Heat shock transcription factors 1 and 2 (HSF1 and HSF2), also designated HSTF1 and HSTF2, are involved in this regulation and are upregulated by estrogen at both the mRNA and protein level. HSF1 is normally found as a monomer, whose transcriptional activity is repressed by constitutive phosphorylation. Upon activation, HSF1 forms trimers, gains DNA binding activity and is translocated to the nucleus. HSBP1 (heat shock factor-binding protein 1), also known as HSF1BP or NPC-A-13 (nasopharyngeal carcinoma-associated antigen 13), is a 76 amino acid nuclear protein that binds HSF1 and acts as a negative regulator of the heat shock response.

## REFERENCES

1. Tanguay, R.M. 1988. Transcriptional activation of heat shock genes in eukaryotes. *Biochem. Cell Biol.* 66: 584-593.
2. Yang, X., et al. 1995. Estrogen dependent expression of heat shock transcription factor: implications for uterine synthesis of heat shock proteins. *J. Steroid Biochem. Mol. Biol.* 52: 415-419.
3. Wyman, C., et al. 1995. Determination of HSF2 stoichiometry at looped DNA complexes using scanning force microscopy. *EMBO J.* 14: 117-123.
4. Rallu, M., et al. 1997. Function and regulation of HSF2 during mouse embryogenesis. *Proc. Natl. Acad. Sci. USA* 94: 2392-2397.
5. Mathew, A., et al. 1998. Heat shock response and protein degradation: regulation of HSF2 by the ubiquitin-proteasome pathway. *Mol. Cell. Biol.* 18: 5091-5098.
6. He, B., et al. 1998. Glycogen synthase kinase 3 $\beta$  and extracellular signal-regulated kinase inactivate HSF1 by facilitating the disappearance of transcriptionally active granules after heat shock. *Mol. Cell. Biol.* 18: 6624-6633.
7. Kawazoe, Y., et al. 1998. Proteasome inhibition leads to the activation of all members of the heat shock factor family. *Eur. J. Biochem.* 255: 356-362.
8. Satyal, S.H., et al. 1998. Negative regulation of the heat shock transcriptional response by HSBP1. *Genes Dev.* 12: 1962-1974.
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## CHROMOSOMAL LOCATION

Genetic locus: HSBP1 (human) mapping to 16q23.3.

## SOURCE

HSBP1 (2C3) is a mouse monoclonal antibody raised against amino acids 1-76 representing full length HSBP1 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

HSBP1 (2C3) is recommended for detection of HSBP1 of 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

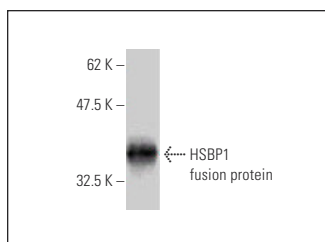
Suitable for use as control antibody for HSBP1 siRNA (h): sc-62478, HSBP1 shRNA Plasmid (h): sc-62478-SH and HSBP1 shRNA (h) Lentiviral Particles: sc-62478-V.

Molecular Weight of HSBP1: 9 kDa.

## 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, 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).

## DATA



HSBP1 (2C3): sc-517153. Western blot analysis of human recombinant HSBP1 fusion protein.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.