SANTA CRUZ BIOTECHNOLOGY, INC.

# HSBP1 (Q-20): sc-54611

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 ubiquiton-proteasome pathway. Mol. Cell Biol. 18: 5091-5098.
6. He, B., et al. 1998. Glycogen synthase kinase 3β 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.
9. Fu, S., et al. 2006. The maize heat shock factor-binding protein paralogs EMP2 and HSBP2 interact non-redundantly with specific heat shock factors. Planta. 224: 42-52.


## CHROMOSOMAL LOCATION

Genetic locus: HSBP1 (human) mapping to 16q23.3; Hsbp1 (mouse) mapping to 8 E1.

## SOURCE

HSBP1 (Q-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HSBP1 of mouse 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-54611 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

HSBP1 (Q-20) is recommended for detection of HSBP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 HSBP1 siRNA (h): sc-62478, HSBP1 siRNA (m): sc-62479, HSBP1 shRNA Plasmid (h): sc-62478-SH, HSBP1 shRNA Plasmid (m): sc-62479-SH, HSBP1 shRNA (h) Lentiviral Particles: sc-62478-V and HSBP1 shRNA (m) Lentiviral Particles: sc-62479-V.

Molecular Weight of HSBP1: 9 kDa.

## 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) 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.

## 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.

## PROTOCOLS

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