

# HSF1 (C-19): sc-8061

## 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 (HSF, also designated HSTF) 1 and 2 are involved in this regulation. HSF1 and HSF2 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. HSF2 activity is associated with differentiation and development, and, like HSF1, binds DNA as a trimer. Both HSF1 and HSF2 are known to be induced by proteasome inhibitors of the ubiquitin pathway.

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: HSF1 (human) mapping to 8q24.3; Hsf1 (mouse) mapping to 15 D3.

## SOURCE

HSF1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of HSF1 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-8061 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-8061 X, 200 µg/0.1 ml.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

HSF1 (C-19) is recommended for detection of HSF1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HSF1 (C-19) is also recommended for detection of HSF1 in additional species, including canine, bovine and porcine.

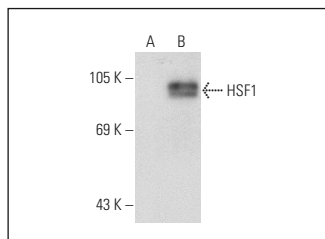
Suitable for use as control antibody for HSF1 siRNA (h): sc-35611, HSF1 siRNA (m): sc-35612, HSF1 shRNA Plasmid (h): sc-35611-SH, HSF1 shRNA Plasmid (m): sc-35612-SH, HSF1 shRNA (h) Lentiviral Particles: sc-35611-V and HSF1 shRNA (m) Lentiviral Particles: sc-35612-V.

HSF1 (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

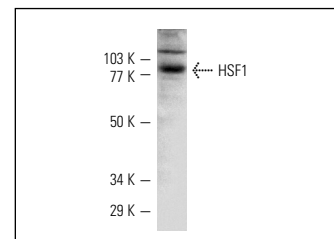
Molecular Weight of HSF1: 80 kDa.

Positive Controls: HSF1 (h): 293T Lysate: sc-171930, HeLa whole cell lysate: sc-2200 or PC-12 cell lysate: sc-2250.

## DATA



HSF1 (C-19): sc-8061. Western blot analysis of HSF1 expression in non-transfected: sc-117752 (A) and human HSF1 transfected: sc-171930 (B) 293T whole cell lysates.



HSF1 (C-19): sc-8061. Western blot analysis of HSF1 expression in HeLa whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Nakajima, H., et al. 2003. Transcriptional regulation of ILT family receptors. *J. Immunol.* 171: 6611-6620.
2. Wang, X., et al. 2004. Interactions between extracellular signal-regulated protein kinase 1, 14-3-3, and heat shock factor 1 during stress. *J. Biol. Chem.* 279: 49460-49469.
3. Landvik, N.E., et al. 2012. Molecular characterization of a cancer-related single nucleotide polymorphism in the pro-inflammatory interleukin-1B gene. *Mol. Carcinog.* 51: E168-E175.



Try **HSF1 (E-4): sc-17757** or **HSF1 (10H8): sc-13516**, our highly recommended monoclonal alternatives to HSF1 (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **HSF1 (E-4): sc-17757**.