

HSF2 (E-2): sc-377045

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; like HSF1, it 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.
4. Rallu, M., et al. 1997. Function and regulation of HSF2 during mouse embryogenesis. *Proc. Natl. Acad. Sci. USA* 94: 2392-2397.
5. He, B., et al. 1998. Glycogen synthase kinase 3 β and extracellular signal-regulated kinase inactivate HSF1 by facilitating the disappearance of transcriptionally active granules after heat shock. *Mol. Cell. Biol.* 18: 6624-6633.

CHROMOSOMAL LOCATION

Genetic locus: HSF2 (human) mapping to 6q22.31; Hsf2 (mouse) mapping to 10 B4.

SOURCE

HSF2 (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 507-536 at the C-terminus of HSF2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377045 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-377045 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

HSF2 (E-2) is recommended for detection of HSF2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

HSF2 (E-2) is also recommended for detection of HSF2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for HSF2 siRNA (h): sc-35613, HSF2 siRNA (m): sc-35614, HSF2 shRNA Plasmid (h): sc-35613-SH, HSF2 shRNA Plasmid (m): sc-35614-SH, HSF2 shRNA (h) Lentiviral Particles: sc-35613-V and HSF2 shRNA (m) Lentiviral Particles: sc-35614-V.

HSF2 (E-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

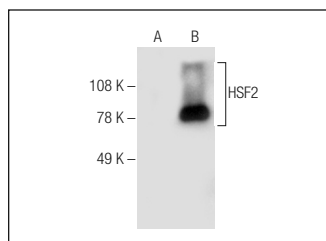
Molecular Weight of HSF2: 79 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or HSF2 (m): 293T Lysate: sc-120906.

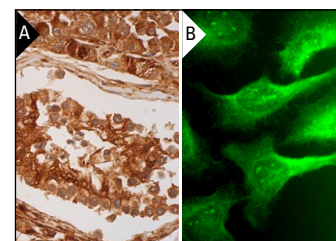
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HSF2 (E-2): sc-377045. Western blot analysis of HSF2 expression in non-transfected: sc-117752 (A) and mouse HSF2 transfected: sc-120906 (B) 293T whole cell lysates.



HSF2 (E-2): sc-377045. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

RESEARCH USE

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