10320 Camino Santa Fe, Suite G
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HSF1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10626

Specification

HSF1 Antibody - Product Information

Application	**WB**
Primary Accession	P38532
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**57223**

HSF1 Antibody - Additional Information

Gene ID 15499

Application & Usage	**Western blotting (0.5-4 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes 100-120 kDa band, corresponding to glycosylated HSF 1 in samples from human and mouse origins. Reactivity to other species has not been tested.**

Other Names
HSF-1, HSF 1, Heat shock factor 1, Heat shock transcription factor 1 , HSTF1, HSTF 1

Target/Specificity
HSF

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
HSF1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

HSF1 Antibody - Protein Information

Name Hsf1 {ECO:0000312|MGI:MGI:96238}

Function
Functions as a stress-inducible and DNA-binding transcription factor that plays a central role in the transcriptional activation of the heat shock response (HSR), leading to the expression of a large class of molecular chaperones, heat shock proteins (HSPs), that protect cells from cellular insult damage. In unstressed cells, is present in a HSP90-containing multichaperone complex that maintains it in a non-DNA- binding inactivated monomeric form. Upon exposure to heat and other stress stimuli, undergoes homotrimerization and activates HSP gene transcription through binding to site-specific heat shock elements (HSEs) present in the promoter regions of HSP genes. Upon heat shock stress, forms a chromatin-associated complex with TTC5/STRAP and p300/EP300 to stimulate HSR transcription, therefore increasing cell survival. Activation is reversible, and during the attenuation and recovery phase period of the HSR, returns to its unactivated form. Binds to inverted 5'-NGAAN-3' pentamer DNA sequences. Binds to chromatin at heat shock gene promoters. Activates transcription of transcription factor FOXR1 which in turn activates transcription of the heat shock chaperones HSPA1A and HSPA6 and the antioxidant NADPH-dependent reductase DHRS2 (By similarity). Binds the promoter region upstream of exon 1 of Mpv17l to activate expression of the M-LPS isoform which is involved in metabolism of reactive oxygen species (PubMed:20231359). Also serves several other functions independently of its transcriptional activity. Involved in the repression of Ras-induced transcriptional activation of the c-fos gene in heat-stressed cells. Positively regulates pre-mRNA 3'-end processing and polyadenylation of HSP70 mRNA upon heat-stressed cells in a symplekin (SYMPK)-dependent manner. Plays a role in nuclear export of stress-induced HSP70 mRNA. Plays a role in the regulation of mitotic progression. Also plays a role as a negative regulator of non-homologous end joining (NHEJ) repair activity in a DNA damage-dependent manner. Involved in stress- induced cancer cell proliferation in a IER5-dependent manner.

Cellular Location
Nucleus. Cytoplasm. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q00613}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:Q00613}. Cytoplasm, cytoskeleton, spindle pole {ECO:0000250|UniProtKB:Q00613}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000250|UniProtKB:Q00613} Chromosome, centromere, kinetochore {ECO:0000250|UniProtKB:Q00613} Note=The monomeric form is cytoplasmic in unstressed cells (PubMed:26159920). Predominantly nuclear protein in both unstressed and heat shocked cells. Translocates in the nucleus upon heat shock Nucleocytoplasmic shuttling protein. Colocalizes with IER5 in the nucleus. Colocalizes with BAG3 to the nucleus upon heat stress Localizes in subnuclear granules called nuclear stress bodies (nSBs) upon heat shock. Colocalizes with SYMPK and SUMO1 in nSBs upon heat shock. Colocalizes with PRKACA/PKA in the nucleus and nSBs upon heat shock. Relocalizes from the nucleus to the cytoplasm during the attenuation and recovery phase period of the heat shock response Translocates in the cytoplasm in a YWHAE- and XPO1/CRM1-dependent manner. Together with histone H2AX, redistributed in discrete nuclear DNA damage-induced foci after ionizing radiation (IR). Colocalizes with calcium-responsive transactivator SS18L1 at kinetochore region on the mitotic chromosomes. Colocalizes with gamma tubulin at centrosome Localizes at spindle pole in metaphase. Colocalizes with PLK1 at spindle poles during prometaphase. {ECO:0000250|UniProtKB:Q00613, ECO:0000269|PubMed:26159920}

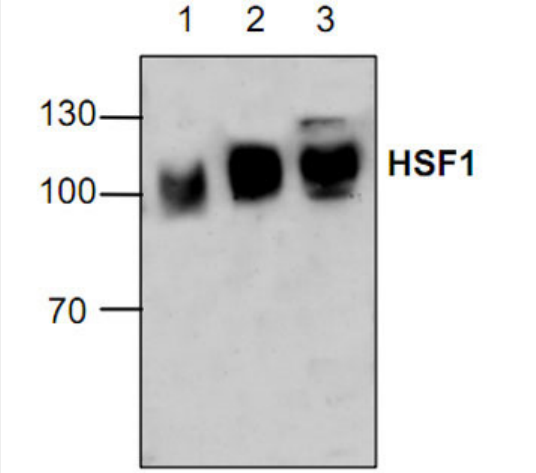
HSF1 Antibody - Protocols

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Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

HSF1 Antibody - Images



Western blot analysis of HSF-1 expression in lysates from 3T3 cells (Lane 1) and Jurkat cells (Lane 2,3).

HSF1 Antibody - Background

HSF 1 responds to cellular stress signals such as heat, heavy metals and oxidative reagents. It binds to heat shock response elements in the upstream region of heat shock gene and activates transcription. Upon activation, HSF 1 is trimerized and is localized in the nucleus where it binds the DNA.