10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

HSF1 Blocking Peptide
Catalog # PBV10363b

Specification

HSF1 Blocking Peptide - Product Information

Primary Accession	P38532
Gene ID	15499
Calculated MW	57223

HSF1 Blocking Peptide - Additional Information

Gene ID 15499

Application & Usage	**The peptide is used for blocking the antibody activity of HSF-1. It usually blocks the antibody activity completely in Western blot analysis by incubating the peptide with equal volume of antibody for 30-60 minutes at 37°C.**

Other Names
Heat shock factor protein 1, HSF 1, Heat shock transcription factor 1, HSTF 1, Hsf1

Target/Specificity
HSF1

Formulation
50 µg (0.5 mg/ml) in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA and 0.02% thimerosal.

Reconstitution & Storage
-20 °C

Background Descriptions

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

HSF1 Blocking Peptide - 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 Blocking Peptide - Protocols

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 Blocking Peptide - Images