

Rabbit anti-Human, Rat HSF1 Polyclonal Antibody | anti-HSF1 antibody

Phospho-HSF1 (Ser326) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA323686	Rabbit	Human, Rat	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

HSF1; Polyclonal Antibody; Phospho-HSF1 (Ser326) Antibody; Heat shock factor 1; Heat shock factor protein 1; Heat shock transcription factor 1; HSF 1; hsf1; HSF1_HUMAN; HSTF 1; HSTF1; anti-HSF1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-HSF1 (S326) antibody detects endogenous levels of HSF1 only when phosphorylated at Ser326
Purity/Purification	From purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	529
Applicable Applications for anti-HSF1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human Phospho-HSF1 (S326)
Subcellular Location	Cytoplasm. Nucleus. Cytoplasmic during normal growth. On activation, translocates to nuclear stress granules. Colocalizes with SUMO1 in nuclear stress granules.
Conjugation	Unconjugated
Epitope	Phospho Ser326
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IF (Immunofluorescence)

AAA323686 staining HepG2 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of Phospho-HSF1 (S326) using HT-29 whole cell lysates



IHC (Immunohistochemistry)

AAA323686 at 1/100 staining Rat brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

Related Product Information for anti-HSF1 antibody

Function: Function 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 insults' damage (PubMed:1871105, PubMed:11447121, PubMed:1986252, PubMed:7760831, PubMed:7623826, PubMed:8946918, PubMed:8940068, PubMed:9341107, PubMed:9121459, PubMed:9727490, PubMed:9499401, PubMed:9535852, PubMed:12659875, PubMed:12917326, PubMed:15016915, PubMed:25963659, PubMed:26754925). In unstressed cells, is present in a HSP90-containing multichaperone complex that maintains it in a non-DNA-binding inactivated monomeric form (PubMed:9727490, PubMed:11583998, PubMed:16278218). 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 (PubMed:1871105, PubMed:1986252, PubMed:8455624, PubMed:7935471, PubMed:7623826, PubMed:8940068, PubMed:9727490, PubMed:9499401, PubMed:10359787, PubMed:11583998, PubMed:12659875, PubMed:16278218, PubMed:25963659, PubMed:26754925). Activation is reversible, and during the attenuation and recovery phase period of the HSR, returns to its unactivated form (PubMed:11583998, PubMed:16278218). Binds to inverted 5'-NGAAN-3' pentamer DNA sequences (PubMed:1986252, PubMed:26727489). Binds to chromatin at heat shock gene promoters (PubMed:25963659). Plays also 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 (PubMed:9341107). Positively regulates pre-mRNA 3'-end processing and polyadenylation of HSP70 mRNA upon heat-stressed cells in a symplekin (SYMPK)-dependent manner (PubMed:14707147). Plays a role in nuclear export of stress-induced HSP70 mRNA (PubMed:17897941). Plays a role in the regulation of mitotic progression (PubMed:18794143). Plays also a role as a negative regulator of non-homologous end joining (NHEJ) repair activity in a DNA damage-dependent manner (PubMed:26359349). Involved in stress-induced cancer cell proliferation in a IER5-dependent manner (PubMed:26754925).

Subunit Structure: Monomer; cytoplasmic latent and transcriptionally inactive monomeric form in unstressed cells (PubMed:8455624, PubMed:7935376, PubMed:7935471, PubMed:7623826, PubMed:9222587, PubMed:9727490, PubMed:11583998). Homotrimer; in response to stress, such as heat shock, homotrimerizes and translocates into the nucleus, binds to heat shock element (HSE) sequences in promoter of heat shock protein (HSP) genes and acquires transcriptional ability (PubMed:8455624, PubMed:7935471, PubMed:7623826, PubMed:9222587, PubMed:9727490, PubMed:11583998, PubMed:26754925, PubMed:26727489). Interacts (via monomeric form) with FKBP4; this interaction occurs in unstressed cells (PubMed:11583998). Associates (via monomeric form) with HSP90 proteins in a multichaperone complex in unstressed cell; this association maintains HSF1 in a non-DNA-binding and transcriptional inactive form by preventing HSF1 homotrimerization (PubMed:9727490, PubMed:11583998, PubMed:15661742, PubMed:16278218). Homotrimeric transactivation activity is modulated by protein-protein interactions and post-translational modifications (PubMed:11583998, PubMed:15016915, PubMed:16554823, PubMed:26754925). Interacts with HSP90AA1; this interaction is decreased in a IER5-dependent manner, promoting HSF1 accumulation in the nucleus, homotrimerization and DNA-binding activities (PubMed:26754925). Part (via regulatory domain in the homotrimeric form) of a large heat shock-induced HSP90-dependent multichaperone complex at least composed of FKBP4, FKBP5, HSP90 proteins, PPID, PPP5C and PTGES3; this association maintains the HSF1 homotrimeric DNA-bound form in a transcriptionally inactive form (PubMed:9727490, PubMed:11583998, PubMed:16278218). Interacts with BAG3 (via BAG domain); this interaction occurs in normal and heat-shocked cells promoting nuclear shuttling of HSF1 in a BAG3-dependent manner (PubMed:26159920). Interacts (via homotrimeric and hyperphosphorylated form) with FKBP4; this interaction occurs upon heat shock in a HSP90-dependent multichaperone complex (PubMed:11583998). Interacts (via homotrimeric form preferentially) with EEF1A proteins (PubMed:15016915). In heat shocked cells, stress-denatured proteins compete with HSF1 homotrimeric DNA-bound form for association of the HSP90-dependent multichaperone complex, and hence alleviating repression of HSF1-mediated transcriptional activity (PubMed:11583998). Interacts (via homotrimeric form preferentially) with DAXX; this interaction relieves homotrimeric HSF1 from repression of its transcriptional activity by HSP90-dependent multichaperone complex upon heat shock (PubMed:15016915). Interacts (via D domain and preferentially with hyperphosphorylated form) with JNK1; this interaction occurs under both normal growth conditions and immediately upon heat shock (PubMed:10747973). Interacts (via D domain and preferentially with hyperphosphorylated form) with MAPK3; this interaction occurs upon heat shock (PubMed:10747973). Interacts with IER5 (via central region); this interaction promotes PPP2CA-induced dephosphorylation on Ser-121, Ser-307, Ser-314, Thr-323 and Thr-367 and HSF1 transactivation activity (PubMed:25816751, PubMed:26496226, PubMed:26754925). Found in a ribonucleoprotein complex composed of the HSF1 homotrimeric form, translation elongation factor eEF1A proteins and non-coding RNA heat shock RNA-1 (HSR1); this complex occurs upon heat shock and stimulates HSF1 DNA-binding activity (PubMed:16554823). Interacts (via transactivation domain) with HSPA1A/HSP70 and DNAJB1; these interactions result in the inhibition of heat shock-and HSF1-induced transcriptional activity during the attenuation and recovery phase from heat shock (PubMed:7935376, PubMed:9222587, PubMed:9499401). Interacts (via Ser-303 and Ser-307 phosphorylated form) with YWHAЕ; this interaction promotes HSF1 sequestration in the cytoplasm in an ERK-dependent manner (PubMed:12917326). Found in a complex with IER5 and PPP2CA (PubMed:26754925). Interacts with TPR; this interaction increases upon heat shock and stimulates export of HSP70 mRNA (PubMed:17897941). Interacts with SYMPK (via N-terminus) and CSTF2; these interactions occur upon heat shock (PubMed:14707147). Interacts (via transactivation domain) with HSPA8 (PubMed:9499401). Interacts with EEF1D; this interaction occurs at heat shock promoter element (HSE) sequences (PubMed:21597468). Interacts with MAPKAPK2 (PubMed:16278218). Interacts with PRKACA/PKA (PubMed:21085490). Interacts (via transactivation domain) with GTF2A2 (PubMed:11005381). Interacts (via transactivation domain) with GTF2B (PubMed:11005381). Interacts (via transactivation domain) with TBP (PubMed:11005381). Interacts with CDK9, CCNT1 and EP300 (PubMed:27189267). Interacts (via N-terminus) with XRCC5 (via N-terminus) and XRCC6 (via N-terminus); these interactions are direct and prevent

NCBI AND UNIPROT INFORMATION

NCBI GI #	5031767
NCBI GeneID	3297
NCBI Accession #	NP_005517.1
NCBI GenBank Nucleotide #	NM_005526.3
UniProt Accession #	Q00613; Q53XT4; A8K4L0; A8MW26
Molecular Weight	Observed: 82 kDa Predicted: 58 kDa
NCBI Official Full Name	heat shock factor protein 1
NCBI Official Synonym Full Names	heat shock transcription factor 1
NCBI Official Symbol	HSF1
NCBI Official Synonym Symbols	HSTF1
NCBI Protein Information	heat shock factor protein 1
UniProt Protein Name	Heat shock factor protein 1
UniProt Gene Name	HSF1
UniProt Synonym Gene Names	HSTF1; HSTF 1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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