

HSF1 Antibody (aa270-319)
Rabbit Polyclonal Antibody
Catalog # ALS15015**Specification**

HSF1 Antibody (aa270-319) - Product Information

Application	WB, IHC
Primary Accession	Q00613
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	57kDa KDa

HSF1 Antibody (aa270-319) - Additional Information**Gene ID** 3297**Other Names**

Heat shock factor protein 1, HSF 1, Heat shock transcription factor 1, HSTF 1, HSF1, HSTF1

Target/Specificity

HSF1 (Ab-303) Antibody detects endogenous levels of total HSF1 protein.

Reconstitution & Storage

Store at -20°C for up to one year.

Precautions

HSF1 Antibody (aa270-319) is for research use only and not for use in diagnostic or therapeutic procedures.

HSF1 Antibody (aa270-319) - Protein Information**Name** HSF1 ([HGNC:5224](#))**Synonyms** HSTF1**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 (PubMed: [11447121](http://www.uniprot.org/citations/11447121) target="_blank">11447121, PubMed: [12659875](http://www.uniprot.org/citations/12659875) target="_blank">12659875, PubMed: [12917326](http://www.uniprot.org/citations/12917326) target="_blank">12917326, PubMed: [15016915](http://www.uniprot.org/citations/15016915) target="_blank">15016915, PubMed: [18451878](http://www.uniprot.org/citations/18451878) target="_blank">18451878, PubMed: [1871105](http://www.uniprot.org/citations/1871105) target="_blank">1871105, PubMed: [1986252](http://www.uniprot.org/citations/1986252) target="_blank">1986252, PubMed: [25963659](http://www.uniprot.org/citations/25963659) target="_blank">25963659)

target="_blank">25963659, PubMed:26754925, PubMed:7623826, PubMed:7760831, PubMed:8940068, PubMed:8946918, PubMed:9121459, PubMed:9341107, PubMed:9499401, PubMed:9535852, PubMed:9727490). In unstressed cells, is present in a HSP90-containing multichaperone complex that maintains it in a non-DNA-binding inactivated monomeric form (PubMed:11583998, PubMed:16278218, PubMed:9727490). 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:10359787, PubMed:11583998, PubMed:12659875, PubMed:16278218, PubMed:1871105, PubMed:1986252, PubMed:25963659, PubMed:26754925, PubMed:7623826, PubMed:7935471, PubMed:8455624, PubMed:8940068, PubMed:9499401, PubMed:9727490). Upon heat shock stress, forms a chromatin-associated complex with TTC5/STRAP and p300/EP300 to stimulate HSR transcription, therefore increasing cell survival (PubMed:18451878). 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). 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 (PubMed:34723967). 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 (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). Also plays a role as a negative regulator of non-homologous end joining (NHEJ) repair activity in a DNA damage-dependent manner (PubMed:26359349).

target="_blank">26359349). Involved in stress-induced cancer cell proliferation in a IER5-dependent manner (PubMed:26754925).

Cellular Location

Nucleus. Cytoplasm. Nucleus, nucleoplasm. Cytoplasm, perinuclear region. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Chromosome, centromere, kinetochore Note=The monomeric form is cytoplasmic in unstressed cells (PubMed:26159920, PubMed:8455624). Predominantly nuclear protein in both unstressed and heat shocked cells (PubMed:10359787, PubMed:10413683). Translocates in the nucleus upon heat shock (PubMed:8455624). Nucleocytoplasmic shuttling protein (PubMed:26159920). Colocalizes with IER5 in the nucleus (PubMed:27354066). Colocalizes with BAG3 to the nucleus upon heat stress (PubMed:26159920, PubMed:8455624). Localizes in subnuclear granules called nuclear stress bodies (nSBs) upon heat shock (PubMed:10359787, PubMed:10747973, PubMed:11447121, PubMed:11514557, PubMed:19229036, PubMed:24581496, PubMed:25963659). Colocalizes with SYMPK and SUMO1 in nSBs upon heat shock (PubMed:10359787, PubMed:11447121, PubMed:11514557, PubMed:12665592, PubMed:14707147) Colocalizes with PRKACA/PKA in the nucleus and nSBs upon heat shock (PubMed:21085490). Relocalizes from the nucleus to the cytoplasm during the attenuation and recovery phase period of the heat shock response (PubMed:26159920). Translocates in the cytoplasm in a YWHAE- and XPO1/CRM1-dependent manner (PubMed:12917326). Together with histone H2AX, redistributed in discrete nuclear DNA damage-induced foci after ionizing radiation (IR) (PubMed:26359349). Colocalizes with calcium-responsive transactivator SS18L1 at kinetochore region on the mitotic chromosomes (PubMed:18794143). Colocalizes with gamma tubulin at centrosome (PubMed:18794143). Localizes at spindle pole in metaphase (PubMed:18794143). Colocalizes with PLK1 at spindle poles during prometaphase (PubMed:18794143).

Volume

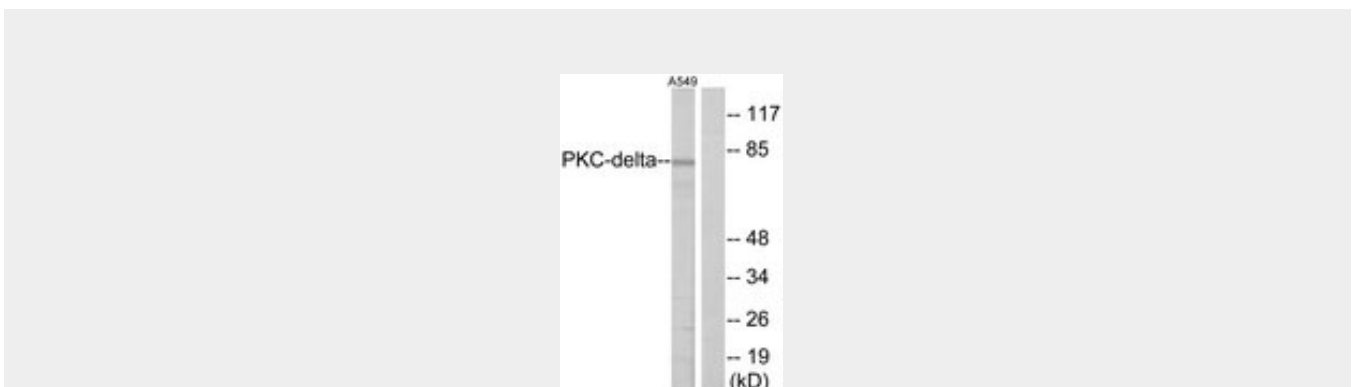
50 µl

HSF1 Antibody (aa270-319) - Protocols

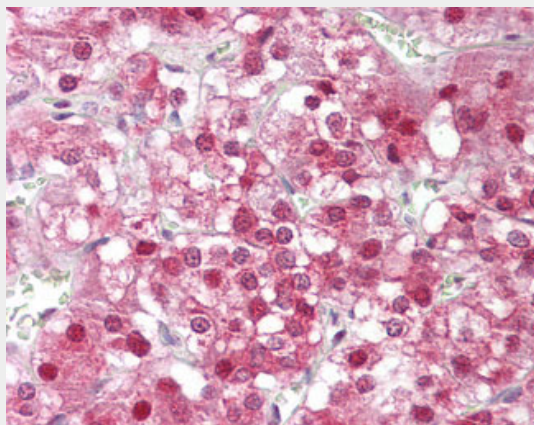
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

HSF1 Antibody (aa270-319) - Images



Western blot of extracts from A549 cells, treated with TNF- 20 ng/ml 30', using HSF1 (Ab-303)...



Anti-HSF1 antibody IHC of human adrenal.

HSF1 Antibody (aa270-319) - Background

DNA-binding protein that specifically binds heat shock promoter elements (HSE) and activates transcription. In higher eukaryotes, HSF is unable to bind to the HSE unless the cells are heat shocked.

HSF1 Antibody (aa270-319) - References

- Rabindran S.K., et al. Proc. Natl. Acad. Sci. U.S.A. 88:6906-6910(1991).
- Ota T., et al. Nat. Genet. 36:40-45(2004).
- Kalnina N., et al. Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
- Nusbaum C., et al. Nature 439:331-335(2006).
- Schuetz T.J., et al. Proc. Natl. Acad. Sci. U.S.A. 88:6911-6915(1991).