

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

**Specification**

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**HSF1 Antibody (aa270-319) - Product Information**

|                   |                        |
|-------------------|------------------------|
| Application       | WB, IHC                |
| Primary Accession | <a href="#">Q00613</a> |
| 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</a>, PubMed: [12659875](http://www.uniprot.org/citations/12659875) target="\_blank">12659875</a>, PubMed: [12917326](http://www.uniprot.org/citations/12917326) target="\_blank">12917326</a>, PubMed: [15016915](http://www.uniprot.org/citations/15016915) target="\_blank">15016915</a>, PubMed: [18451878](http://www.uniprot.org/citations/18451878) target="\_blank">18451878</a>, PubMed: [1871105](http://www.uniprot.org/citations/1871105) target="\_blank">1871105</a>, PubMed: [1986252](http://www.uniprot.org/citations/1986252) target="\_blank">1986252</a>, PubMed: [25963659](http://www.uniprot.org/citations/25963659)

target="\_blank">25963659</a>, PubMed:<a href="http://www.uniprot.org/citations/26754925" target="\_blank">26754925</a>, PubMed:<a href="http://www.uniprot.org/citations/7623826" target="\_blank">7623826</a>, PubMed:<a href="http://www.uniprot.org/citations/7760831" target="\_blank">7760831</a>, PubMed:<a href="http://www.uniprot.org/citations/8940068" target="\_blank">8940068</a>, PubMed:<a href="http://www.uniprot.org/citations/8946918" target="\_blank">8946918</a>, PubMed:<a href="http://www.uniprot.org/citations/9121459" target="\_blank">9121459</a>, PubMed:<a href="http://www.uniprot.org/citations/9341107" target="\_blank">9341107</a>, PubMed:<a href="http://www.uniprot.org/citations/9499401" target="\_blank">9499401</a>, PubMed:<a href="http://www.uniprot.org/citations/9535852" target="\_blank">9535852</a>, PubMed:<a href="http://www.uniprot.org/citations/9727490" target="\_blank">9727490</a>). In unstressed cells, is present in a HSP90-containing multichaperone complex that maintains it in a non-DNA-binding inactivated monomeric form (PubMed:<a href="http://www.uniprot.org/citations/11583998" target="\_blank">11583998</a>, PubMed:<a href="http://www.uniprot.org/citations/16278218" target="\_blank">16278218</a>, PubMed:<a href="http://www.uniprot.org/citations/9727490" target="\_blank">9727490</a>). 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:<a href="http://www.uniprot.org/citations/10359787" target="\_blank">10359787</a>, PubMed:<a href="http://www.uniprot.org/citations/11583998" target="\_blank">11583998</a>, PubMed:<a href="http://www.uniprot.org/citations/12659875" target="\_blank">12659875</a>, PubMed:<a href="http://www.uniprot.org/citations/16278218" target="\_blank">16278218</a>, PubMed:<a href="http://www.uniprot.org/citations/1871105" target="\_blank">1871105</a>, PubMed:<a href="http://www.uniprot.org/citations/1986252" target="\_blank">1986252</a>, PubMed:<a href="http://www.uniprot.org/citations/25963659" target="\_blank">25963659</a>, PubMed:<a href="http://www.uniprot.org/citations/26754925" target="\_blank">26754925</a>, PubMed:<a href="http://www.uniprot.org/citations/7623826" target="\_blank">7623826</a>, PubMed:<a href="http://www.uniprot.org/citations/7935471" target="\_blank">7935471</a>, PubMed:<a href="http://www.uniprot.org/citations/8455624" target="\_blank">8455624</a>, PubMed:<a href="http://www.uniprot.org/citations/8940068" target="\_blank">8940068</a>, PubMed:<a href="http://www.uniprot.org/citations/9499401" target="\_blank">9499401</a>, PubMed:<a href="http://www.uniprot.org/citations/9727490" target="\_blank">9727490</a>). Upon heat shock stress, forms a chromatin-associated complex with TTC5/STRAP and p300/EP300 to stimulate HSR transcription, therefore increasing cell survival (PubMed:<a href="http://www.uniprot.org/citations/18451878" target="\_blank">18451878</a>). Activation is reversible, and during the attenuation and recovery phase period of the HSR, returns to its unactivated form (PubMed:<a href="http://www.uniprot.org/citations/11583998" target="\_blank">11583998</a>, PubMed:<a href="http://www.uniprot.org/citations/16278218" target="\_blank">16278218</a>). Binds to inverted 5'-NGAAN-3' pentamer DNA sequences (PubMed:<a href="http://www.uniprot.org/citations/1986252" target="\_blank">1986252</a>, PubMed:<a href="http://www.uniprot.org/citations/26727489" target="\_blank">26727489</a>). Binds to chromatin at heat shock gene promoters (PubMed:<a href="http://www.uniprot.org/citations/25963659" target="\_blank">25963659</a>). 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:<a href="http://www.uniprot.org/citations/34723967" target="\_blank">34723967</a>). 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:<a href="http://www.uniprot.org/citations/9341107" target="\_blank">9341107</a>). Positively regulates pre-mRNA 3'-end processing and polyadenylation of HSP70 mRNA upon heat-stressed cells in a symplekin (SYMPK)-dependent manner (PubMed:<a href="http://www.uniprot.org/citations/14707147" target="\_blank">14707147</a>). Plays a role in nuclear export of stress-induced HSP70 mRNA (PubMed:<a href="http://www.uniprot.org/citations/17897941" target="\_blank">17897941</a>). Plays a role in the regulation of mitotic progression (PubMed:<a href="http://www.uniprot.org/citations/18794143" target="\_blank">18794143</a>). Also plays a role as a negative regulator of non-homologous end joining (NHEJ) repair activity in a DNA damage-dependent manner (PubMed:<a href="http://www.uniprot.org/citations/26359349" target="\_blank">26359349</a>).

target="\_blank">26359349</a>). Involved in stress-induced cancer cell proliferation in a IER5-dependent manner (PubMed:<a href="http://www.uniprot.org/citations/26754925" target="\_blank">26754925</a>).

### 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

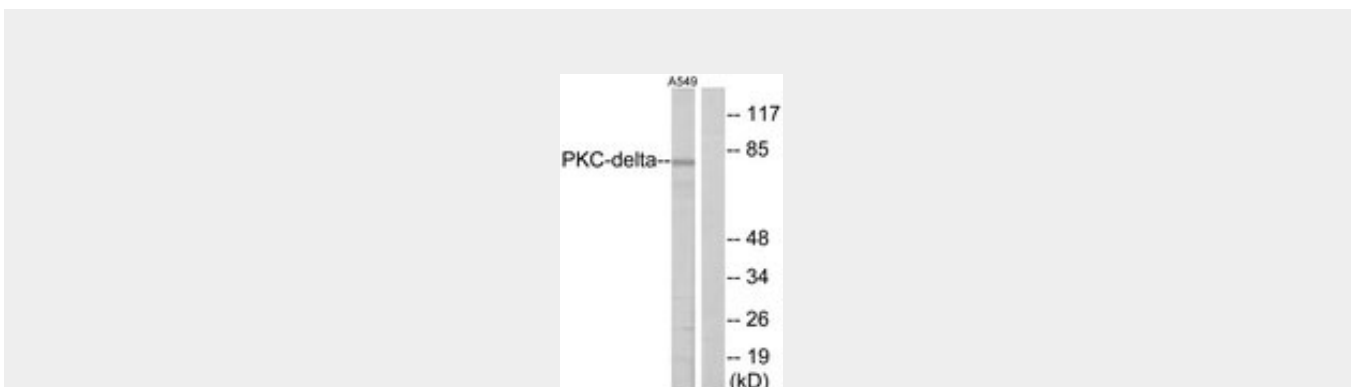
50 µl

### HSF1 Antibody (aa270-319) - Protocols

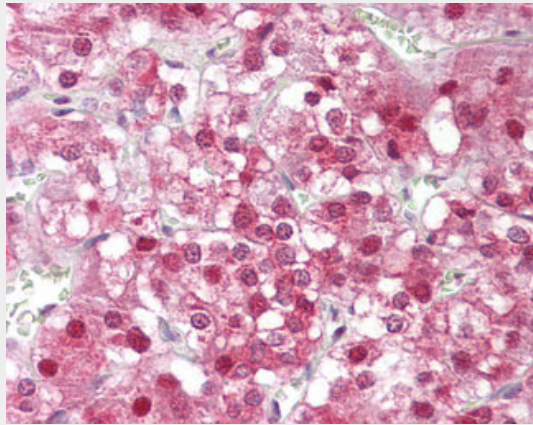
Provided below are standard protocols that you may find useful for product applications.

- [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).