

# Hsf1 Rabbit mAb

Catalog # AP77071

## Product Information

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|--------------------------|-----------------------------------------------|
| <b>Application</b>       | WB, IHC-P, IF, FC, ICC, IP                    |
| <b>Primary Accession</b> | <a href="#">Q00613</a>                        |
| <b>Reactivity</b>        | Human                                         |
| <b>Host</b>              | Rabbit                                        |
| <b>Clonality</b>         | Monoclonal Antibody                           |
| <b>Isotype</b>           | IgG                                           |
| <b>Conjugate</b>         | Unconjugated                                  |
| <b>Immunogen</b>         | A synthesized peptide derived from human HSF1 |
| <b>Purification</b>      | Affinity Chromatography                       |
| <b>Calculated MW</b>     | 57260                                         |

## Additional Information

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|--------------------|----------------------------------------------------------------------------------------------------|
| <b>Gene ID</b>     | 3297                                                                                               |
| <b>Other Names</b> | HSF1                                                                                               |
| <b>Dilution</b>    | WB~~1/500-1/1000 IHC-P~~N/A IF~~1:50~200 FC~~1:10~50 ICC~~N/A<br>IP~~N/A                           |
| <b>Format</b>      | Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol. |
| <b>Storage</b>     | Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.           |

## Protein Information

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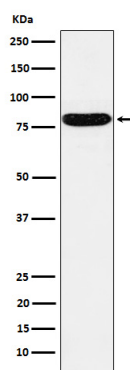
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Name</b>     | HSF1 ( <a href="#">HGNC:5224</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Synonyms</b> | HSTF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Function</b> | 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: <a href="#">11447121</a> , PubMed: <a href="#">12659875</a> , PubMed: <a href="#">12917326</a> , PubMed: <a href="#">15016915</a> , PubMed: <a href="#">18451878</a> , PubMed: <a href="#">1871105</a> , PubMed: <a href="#">1986252</a> , PubMed: <a href="#">25963659</a> , PubMed: <a href="#">26754925</a> , PubMed: <a href="#">7623826</a> , PubMed: <a href="#">7760831</a> , PubMed: <a href="#">8940068</a> , PubMed: <a href="#">8946918</a> , PubMed: <a href="#">9121459</a> , PubMed: <a href="#">9341107</a> , PubMed: <a href="#">9499401</a> , PubMed: <a href="#">9535852</a> , PubMed: <a href="#">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="#">11583998</a> , |

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](#)). 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](#)).

## Images



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