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HSF1 Sumoylation Site Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2501a

Specification

HSF1 Sumoylation Site Antibody - Product Information

Application	**IF, WB,E**
Primary Accession	Q00613
Other Accession	Q08DJ8
Reactivity	**Human, Mouse**
Predicted	**Bovine**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit Ig**
Calculated MW	**57260**
Antigen Region	**278-309**

HSF1 Sumoylation Site Antibody - Additional Information

Gene ID 3297

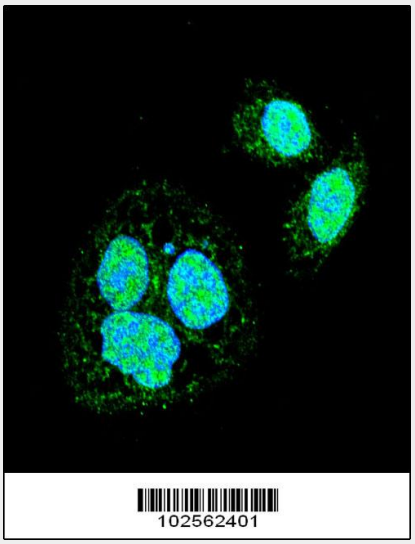
Other Names
Heat shock factor protein 1, HSF 1, Heat shock transcription factor 1, HSTF 1, HSF1, HSTF1

Target/Specificity
This HSF1 Sumoylation Site antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 278-309 amino acids from human HSF1 Sumoylation Site.

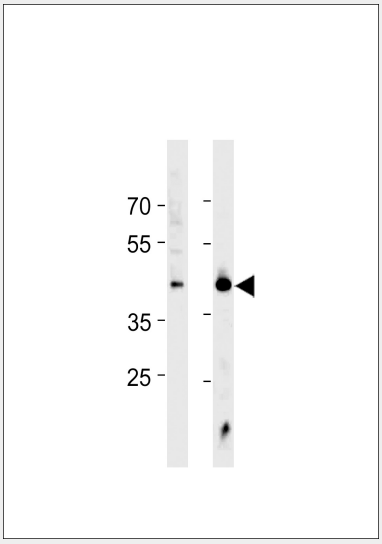
Dilution
IF~~1:10~50
WB~~1:1000

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.



Confocal immunofluorescent analysis of HSF1 Sumoylation Site Antibody (Cat#AP2501a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



HSF1 Antibody (Cat. #AP2501a) western blot analysis in Jurkat cell line and mouse heart tissue lysates (35ug/lane).This demonstrates the HSF1 antibody detected the HSF1 protein (arrow).

Precautions
HSF1 Sumoylation Site Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

HSF1 Sumoylation Site Antibody - 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 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,

HSF1 Sumoylation Site Antibody - Background

Heat shock transcription factor 1 (HSF1) mediates the induction of heat shock protein gene expression in cells exposed to elevated temperature and other stress conditions. In response to stress, HSF1 acquires DNA-binding ability and localizes to nuclear stress granules. SUMO modification of HSF1 converts HSF1 to the DNA-binding form. HSF1 colocalizes with SUMO-1 in nuclear stress granules, which is prevented by mutation of the HSF1 lysine targeted for sumoylation.

HSF1 Sumoylation Site Antibody - References

Hilgarth, et al., Biochem Biophys Res Commun. 2003 Mar 28;303(1):196-200.
He, H., et al., J. Biol. Chem. 278(37):35465-35475 (2003).
Wang, X., et al., Mol. Cell. Biol. 23(17):6013-6026 (2003).
Ignatenko, N.A., et al., Exp. Cell Res. 288(1):1-8 (2003).
Soncin, F., et al., Biochem. Biophys. Res. Commun. 303(2):700-706 (2003).

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:<a href="http://www.uniprot.org/ci

tations/10359787"
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tations/11583998"
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tations/12659875"
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tations/16278218"
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tations/25963659"
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PubMed:<a href="http://www.uniprot.org/ci
tations/26754925"
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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/c
itations/11583998"
target="_blank">11583998,
PubMed:<a href="http://www.uniprot.org/ci
tations/16278218"
target="_blank">16278218). Binds to
inverted 5'-NGAAN-3' pentamer DNA
sequences (PubMed:<a href="http://www.u
niprot.org/citations/1986252"
target="_blank">1986252,
PubMed:<a href="http://www.uniprot.org/ci
tations/26727489"
target="_blank">26727489). Binds to
chromatin at heat shock gene promoters
(PubMed:<a href="http://www.uniprot.org/c
itations/25963659"
target="_blank">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:<a href="http://www.uniprot.
org/citations/9341107"
target="_blank">9341107). Positively
regulates pre-mRNA 3'-end processing and
polyadenylation of HSP70 mRNA upon
heat-stressed cells in a symplekin
(SYMPK)-dependent manner (PubMed:<a hr
ef="http://www.uniprot.org/citations/14707
147" target="_blank">14707147).
Plays a role in nuclear export of stress-
induced HSP70 mRNA (PubMed:<a href="ht
tp://www.uniprot.org/citations/17897941"
target="_blank">17897941). Plays a
role in the regulation of mitotic progression
(PubMed:<a href="http://www.uniprot.org/c
itations/18794143"

target="_blank">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).

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:8455624, PubMed:26159920). Predominantly nuclear protein in both unstressed and heat shocked cells (PubMed:10413683, PubMed:10359787). 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:8455624, PubMed:26159920). Localizes in subnuclear granules called nuclear stress bodies (nSBs) upon heat shock (PubMed:11447121, PubMed:11514557, PubMed:10359787, PubMed:25963659, PubMed:10747973, PubMed:24581496, PubMed:19229036). Colocalizes with SYMPK and SUMO1 in nSBs upon heat shock (PubMed:11447121, PubMed:12665592, PubMed:11514557, PubMed:14707147, PubMed:10359787) 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).

HSF1 Sumoylation Site Antibody - 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