

**HSF-27 Polyclonal Antibody**  
Catalog # AP70421**Specification****HSF-27 Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">O96JB5</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**HSF-27 Polyclonal Antibody - Additional Information****Gene ID** 80279**Other Names**

CDK5RAP3; IC53; MSTP016; OK/SW-cl.114; PP1553; CDK5 regulatory subunit-associated protein 3; CDK5 activator-binding protein C53; Protein HSF-27

**Dilution**

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/5000. Not yet tested in other applications.

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**HSF-27 Polyclonal Antibody - Protein Information****Name** CDK5RAP3 {ECO:0000303|PubMed:30635284, ECO:0000312|HGNC:HGNC:18673}**Function**

Substrate adapter of E3 ligase complexes mediating ufmylation, the covalent attachment of the ubiquitin-like modifier UFM1 to substrate proteins, and which is involved in various processes, such as ribosome recycling and reticulophagy (also called ER-phagy) (PubMed:<a href="http://www.uniprot.org/citations/23152784" target="\_blank">23152784</a>, PubMed:<a href="http://www.uniprot.org/citations/30635284" target="\_blank">30635284</a>, PubMed:<a href="http://www.uniprot.org/citations/32851973" target="\_blank">32851973</a>, PubMed:<a href="http://www.uniprot.org/citations/36121123" target="\_blank">36121123</a>, PubMed:<a href="http://www.uniprot.org/citations/36543799" target="\_blank">36543799</a>, PubMed:<a href="http://www.uniprot.org/citations/37595036" target="\_blank">37595036</a>, PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>, PubMed:<a href="http://www.uniprot.org/citations/38383789" target="\_blank">38383789</a>). As part of the UREL complex, plays a key role in ribosome recycling by promoting mono-ufmylation of RPL26/uL24 subunit of the 60S ribosome (PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>, PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>, PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>).

<http://www.uniprot.org/citations/38383789> target="\_blank">38383789</a>). Ufmylation of RPL26/uL24 occurs on free 60S ribosomes following ribosome dissociation: it weakens the junction between post-termination 60S subunits and SEC61 translocons, promoting release and recycling of the large ribosomal subunit from the endoplasmic reticulum membrane (PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>, PubMed:<a href="http://www.uniprot.org/citations/38383789" target="\_blank">38383789</a>). Ufmylation of RPL26/uL24 and subsequent 60S ribosome recycling either take place after normal termination of translation or after ribosome stalling during cotranslational translocation at the endoplasmic reticulum (PubMed:<a href="http://www.uniprot.org/citations/32851973" target="\_blank">32851973</a>, PubMed:<a href="http://www.uniprot.org/citations/37595036" target="\_blank">37595036</a>, PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>, PubMed:<a href="http://www.uniprot.org/citations/38383789" target="\_blank">38383789</a>). Within the UREL complex, CDK5RAP3 acts as a substrate adapter that constrains UFL1 ligase activity to mono-ufmylate RPL26/uL24 at 'Lys-134' (PubMed:<a href="http://www.uniprot.org/citations/36121123" target="\_blank">36121123</a>, PubMed:<a href="http://www.uniprot.org/citations/38383785" target="\_blank">38383785</a>, PubMed:<a href="http://www.uniprot.org/citations/38383789" target="\_blank">38383789</a>). The UREL complex is also involved in reticulophagy in response to endoplasmic reticulum stress by promoting ufmylation of proteins such as CYB5R3, thereby promoting lysosomal degradation of ufmylated proteins (PubMed:<a href="http://www.uniprot.org/citations/36543799" target="\_blank">36543799</a>). Also acts as a regulator of transcription: negatively regulates NF-kappa-B-mediated gene transcription through the control of RELA phosphorylation (PubMed:<a href="http://www.uniprot.org/citations/17785205" target="\_blank">17785205</a>, PubMed:<a href="http://www.uniprot.org/citations/20228063" target="\_blank">20228063</a>). Also regulates mitotic G2/M transition checkpoint and mitotic G2 DNA damage checkpoint (PubMed:<a href="http://www.uniprot.org/citations/15790566" target="\_blank">15790566</a>, PubMed:<a href="http://www.uniprot.org/citations/19223857" target="\_blank">19223857</a>). Through its interaction with CDKN2A/ARF and MDM2 may induce MDM2-dependent p53/TP53 ubiquitination, stabilization and activation in the nucleus, thereby promoting G1 cell cycle arrest and inhibition of cell proliferation (PubMed:<a href="http://www.uniprot.org/citations/16173922" target="\_blank">16173922</a>). May also play a role in the rupture of the nuclear envelope during apoptosis (PubMed:<a href="http://www.uniprot.org/citations/23478299" target="\_blank">23478299</a>). May regulate MAPK14 activity by regulating its dephosphorylation by PPM1D/WIP1 (PubMed:<a href="http://www.uniprot.org/citations/21283629" target="\_blank">21283629</a>). Required for liver development (By similarity).

### Cellular Location

Endoplasmic reticulum membrane. Cytoplasm. Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton. Note=Tethered to the endoplasmic reticulum membrane as part of the UFM1 ribosome E3 ligase (UREL) complex (PubMed:38383785, PubMed:38383789). Colocalizes and associates with microtubules (PubMed:23478299)

### Tissue Location

Ubiquitously expressed (PubMed:10721722, PubMed:12054757). Expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Isoform 3 is expressed in kidney, liver, skeletal muscle and placenta (PubMed:12737517)

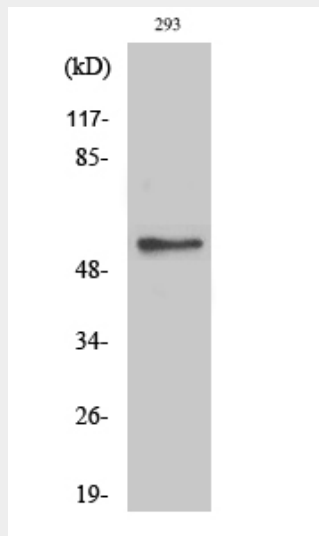
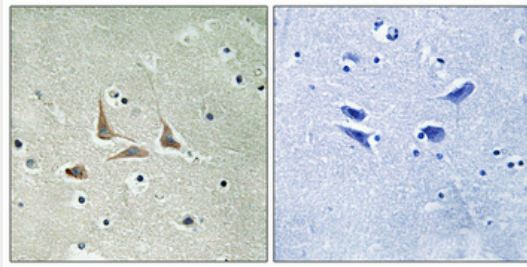
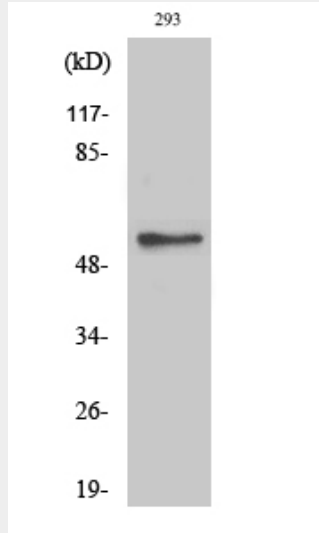
## HSF-27 Polyclonal Antibody - Protocols

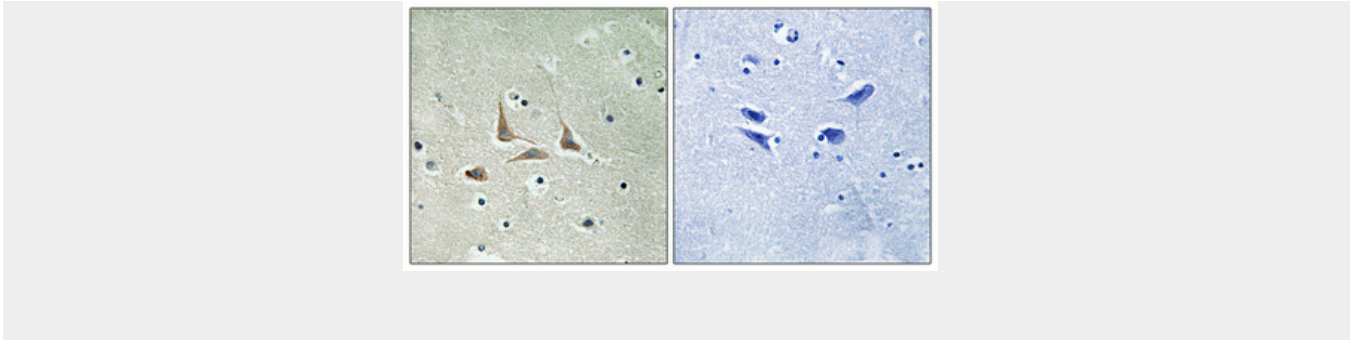
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)

- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### HSF-27 Polyclonal Antibody - Images





### **HSF-27 Polyclonal Antibody - Background**

Probable tumor suppressor initially identified as a CDK5R1 interactor controlling cell proliferation (PubMed:12054757, PubMed:12737517). Negatively regulates NF-kappa-B-mediated gene transcription through the control of RELA phosphorylation (PubMed:17785205, PubMed:20228063). Also regulates mitotic G2/M transition checkpoint and mitotic G2 DNA damage checkpoint (PubMed:15790566, PubMed:19223857). Through its interaction with CDKN2A/ARF and MDM2 may induce MDM2-dependent p53/TP53 ubiquitination, stabilization and activation in the nucleus, thereby promoting G1 cell cycle arrest and inhibition of cell proliferation (PubMed:16173922). May play a role in the unfolded protein response, mediating the ufmylation of multiple proteins in response to endoplasmic reticulum stress (PubMed:23152784). May also play a role in the rupture of the nuclear envelope during apoptosis (PubMed:23478299). May regulate MAPK14 activity by regulating its dephosphorylation by PPM1D/WIP1 (PubMed:21283629).