

# HSF-27 Polyclonal Antibody

Catalog # AP70421

## Product Information

Application	WB, IHC-P
Primary Accession	<a href="#">Q96JB5</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56921

## 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. IHC-P~~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

## 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="#">23152784</a> , PubMed: <a href="#">30635284</a> , PubMed: <a href="#">32851973</a> , PubMed: <a href="#">36121123</a> , PubMed: <a href="#">36543799</a> , PubMed: <a href="#">37595036</a> , PubMed: <a href="#">38383785</a> , PubMed: <a href="#">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="#">38383785</a> , PubMed: <a href="#">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="#">38383785</a> , PubMed: <a href="#">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:[32851973](#), PubMed:[37595036](#), PubMed:[38383785](#), PubMed:[38383789](#)). Within the UREL complex, CDK5RAP3 acts as a substrate adapter that constrains UFL1 ligase activity to mono-ufmylate RPL26/uL24 at 'Lys-134' (PubMed:[36121123](#), PubMed:[38383785](#), PubMed:[38383789](#)). 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:[36543799](#)). Also acts as a regulator of transcription: 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 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](#)). 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](#))

## Background

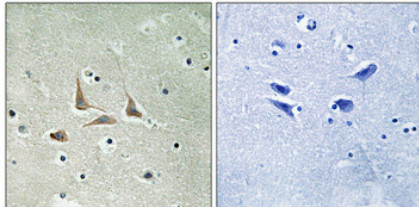
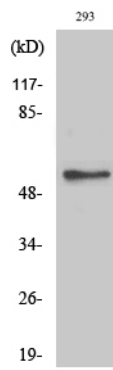
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Probable tumor suppressor initially identified as a CDK5R1 interactor controlling cell proliferation (PubMed:[12054757](#), PubMed:[12737517](#)). Negatively regulates NF-kappa-B-mediated gene transcription through the control of RELA phosphorylation (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](#)).

## Images

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Western Blot analysis of various cells using HSF-27  
 Polyclonal Antibody diluted at 1 : 2000



Immunohistochemical analysis of paraffin-embedded Human brain. Antibody was diluted at 1:100(4°,overnight). High-pressure and temperature Tris-EDTA,pH8.0 was used for antigen retrieval. Negative contrl (right) obtaned from antibody was pre-absorbed by immunogen peptide.

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