

CDK5RAP3 antibody - N-terminal region

Rabbit Polyclonal Antibody Catalog # AI14753

Product Information

WB <u>0961B5</u>
<u>NM 176096, NP 788276</u>
Human, Mouse, Rat, Rabbit, Pig, Dog, Horse, Bovine
Human, Mouse, Rat, Rabbit, Dog, Horse, Bovine
Rabbit
Polyclonal
56921

Additional Information

Gene ID	80279
Alias Symbol Other Names	C53, HSF-27, IC53, LZAP, MST016, OK/SW-cl.114 CDK5 regulatory subunit-associated protein 3, CDK5 activator-binding protein C53, LXXLL/leucine-zipper-containing ARF-binding protein, Protein HSF-27, CDK5RAP3, IC53, LZAP {ECO:0000303 PubMed:20164180}
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-CDK5RAP3 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	CDK5RAP3 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.
Protein Information	
Name	CDK5RAP3 {ECO:0000303 PubMed:30635284,

Nume	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: <u>23152784</u> , PubMed: <u>30635284</u> , PubMed: <u>32851973</u> , PubMed: <u>36121123</u> , PubMed: <u>36543799</u> , PubMed: <u>37595036</u> , PubMed: <u>38383785</u> , PubMed: <u>38383789</u>). 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

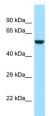
	(PubMed: <u>38383785</u> , PubMed: <u>38383789</u>). Ufmylation of RPL26/uL24 occurs on free 60S ribosomes following ribosome dissociation: it weakens the junction between post-termination 60S subunits and SEC61 translocons, promoting release and recycling of the large ribosomal subunit from the endoplasmic reticulum membrane (PubMed: <u>38383785</u> , PubMed: <u>38383789</u>). 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: <u>32851973</u> , PubMed: <u>37595036</u> , PubMed: <u>38383785</u> , PubMed: <u>38383789</u>). Within the UREL complex, CDK5RAP3 acts as a substrate adapter that constrains UFL1 ligase activity to mono-ufmylate RPL26/uL24 at 'Lys-134' (PubMed: <u>36121123</u> , PubMed: <u>38383785</u> , PubMed: <u>38383789</u>). 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: <u>36543799</u>). Also acts as a regulator of transcription: negatively regulates NF-kappa-B-mediated gene transcription through the control of RELA phosphorylation (PubMed: <u>17785205</u> , PubMed: <u>20228063</u>). Also regulates mitotic G2/M transition checkpoint and mitotic G2 DNA damage checkpoint (PubMed: <u>15790566</u> , PubMed: <u>19223857</u>). 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: <u>16173922</u>). May also play a role in the rupture of the nuclear envelope during apoptosis (PubMed: <u>23478299</u>). May regulate MAPK14 activity by regulating its dephosphorylation by PPM1D/WIP1 (PubMed: <u>21283629</u>). 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)

References

Chen J., et al.Biochem. Biophys. Res. Commun. 294:161-166(2002). Xie Y.H., et al.Cell Res. 13:83-91(2003). Favier A.-L., et al.Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases. Shichijo S., et al.Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases. Ota T., et al.Nat. Genet. 36:40-45(2004).

Images

WB Suggested Anti-CDK5RAP3 Antibody Titration: 1.0 µg/ml Positive Control: THP-1 Whole Cell



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