

KD-Validated Anti-CDK5RAP3 Rabbit Monoclonal Antibody
Rabbit monoclonal Antibody
Catalog # AGI2197**Specification****KD-Validated Anti-CDK5RAP3 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC
Primary Accession	Q96JB5
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 57 kDa, observed, 65 kDa kDa
Gene Name	CDK5RAP3
Aliases	CDK5RAP3; CDK5 Regulatory Subunit Associated Protein 3; IC53; LZAP; OK/SW-CI.114; MST016; HSF-27; C53; LXXLL/Leucine-Zipper-Containing ARF-Binding Protein; LXXLL/Leucine-Zipper-Containing ARFbinding Protein; Ischemic Heart CDK5 Activator-Binding Protein C53; CDK5 Regulatory Subunit-Associated Protein 3; FLJ13660; CDK5 Regulatory Subunit Associated Protein IC53-2; CDK5 Activator-Binding Protein C53; Protein HSF-27; PP1553
Immunogen	A synthesized peptide derived from human CDK5RAP3

KD-Validated Anti-CDK5RAP3 Rabbit Monoclonal Antibody - Additional InformationGene ID **80279****Other Names**

CDK5 regulatory subunit-associated protein 3, CDK5 activator-binding protein C53, LXXLL/leucine-zipper-containing ARF-binding protein, Protein HSF-27 {ECO:0000312|EMBL:AAK69655.1}, CDK5RAP3 {ECO:0000303|PubMed:30635284, ECO:0000312|HGNC:HGNC:18673}

KD-Validated Anti-CDK5RAP3 Rabbit Monoclonal 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:23152784, PubMed:30635284, PubMed:30635284)

[32851973](http://www.uniprot.org/citations/32851973), PubMed: [36121123](http://www.uniprot.org/citations/36121123), PubMed: [36543799](http://www.uniprot.org/citations/36543799), PubMed: [37595036](http://www.uniprot.org/citations/37595036), PubMed: [38383785](http://www.uniprot.org/citations/38383785), PubMed: [38383789](http://www.uniprot.org/citations/38383789)). 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: [38383785](http://www.uniprot.org/citations/38383785), PubMed: [38383789](http://www.uniprot.org/citations/38383789)). 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: [38383785](http://www.uniprot.org/citations/38383785), PubMed: [38383789](http://www.uniprot.org/citations/38383789)). 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](http://www.uniprot.org/citations/32851973), PubMed: [37595036](http://www.uniprot.org/citations/37595036), PubMed: [38383785](http://www.uniprot.org/citations/38383785), PubMed: [38383789](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/36121123), PubMed: [38383785](http://www.uniprot.org/citations/38383785), PubMed: [38383789](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/36543799)). Also acts as a regulator of transcription: negatively regulates NF-kappa-B-mediated gene transcription through the control of RELA phosphorylation (PubMed: [17785205](http://www.uniprot.org/citations/17785205), PubMed: [20228063](http://www.uniprot.org/citations/20228063)). Also regulates mitotic G2/M transition checkpoint and mitotic G2 DNA damage checkpoint (PubMed: [15790566](http://www.uniprot.org/citations/15790566), PubMed: [19223857](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16173922)). May also play a role in the rupture of the nuclear envelope during apoptosis (PubMed: [23478299](http://www.uniprot.org/citations/23478299)). May regulate MAPK14 activity by regulating its dephosphorylation by PPM1D/WIP1 (PubMed: [21283629](http://www.uniprot.org/citations/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

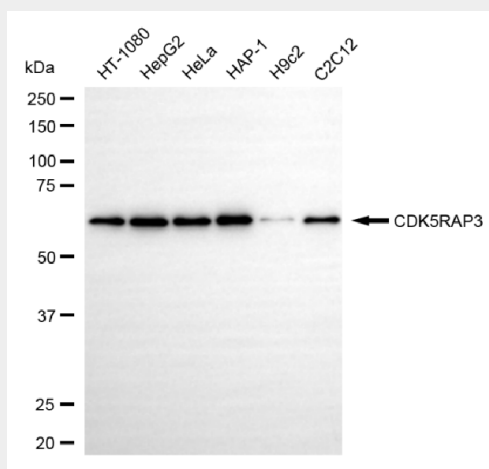
Ubiquitously expressed (PubMed:10721722, PubMed:12054757). Expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Isoform 3 is expressed in kidney, liver, skeletal muscle and placenta (PubMed:12737517)

KD-Validated Anti-CDK5RAP3 Rabbit Monoclonal Antibody - Protocols

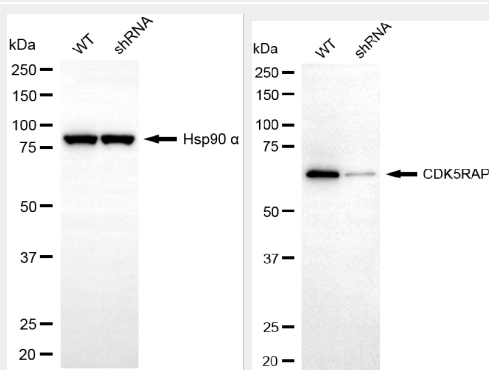
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

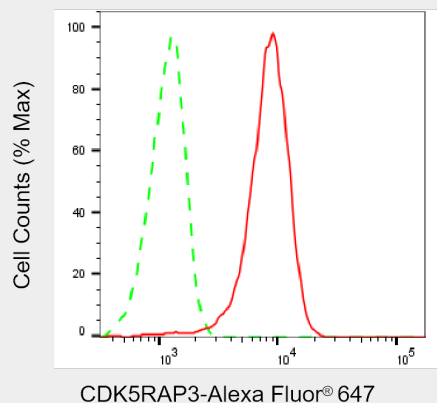
KD-Validated Anti-CDK5RAP3 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-CDK5RAP3 antibody (Cat#AGI2197). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-CDK5RAP3 antibody (Cat#AGI2197, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-CDK5RAP3 antibody (Cat#AGI2197). CDK5RAP3 expression in wild-type (WT) and CDK5RAP3 shRNA knockdown (KD) HT-1080 cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-CDK5RAP3 antibody (Cat#AGI2197, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of CDK5RAP3 expression in HepG2 cells using anti-CDK5RAP3 antibody (Cat#AGI2197, 1:2,000). Green, isotype control; red, CDK5RAP3.