

# CDK5RAP3 Rabbit mAb

Catalog # AP75004

## Product Information

---

<b>Application</b>	WB, IHC-P, FC, IP
<b>Primary Accession</b>	<a href="#">Q96JB5</a>
<b>Reactivity</b>	Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Monoclonal Antibody
<b>Isotype</b>	IgG
<b>Conjugate</b>	Unconjugated
<b>Purification</b>	Affinity Purified
<b>Calculated MW</b>	56921

## Additional Information

---

<b>Gene ID</b>	80279
<b>Other Names</b>	CDK5RAP3
<b>Dilution</b>	WB~~1:1000-1:5000 IHC-P~~N/A FC~~1:10-1:100 IP~~1:10-1:100
<b>Format</b>	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
<b>Storage</b>	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

## Protein Information

---

<b>Name</b>	CDK5RAP3 {ECO:0000303 PubMed:30635284, ECO:0000312 HGNC:HGNC:18673}
<b>Function</b>	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](#))

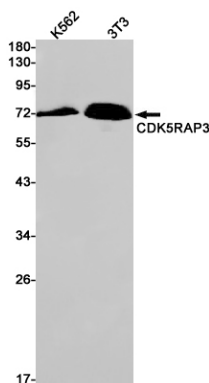
### Tissue Location

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

This gene encodes a protein that has been reported to function in signaling pathways governing transcriptional regulation and cell cycle progression. It may play a role in tumorigenesis and metastasis. A pseudogene of this gene is located on the long arm of chromosome 20. Alternative splicing results in multiple transcript variants that encode different isoforms.

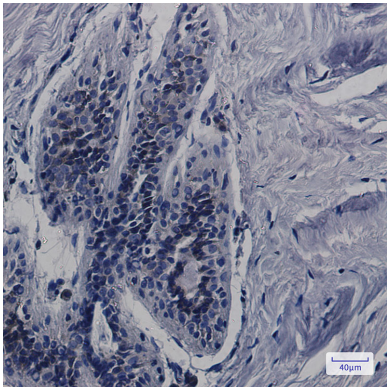
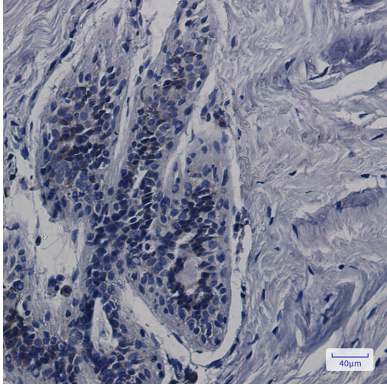
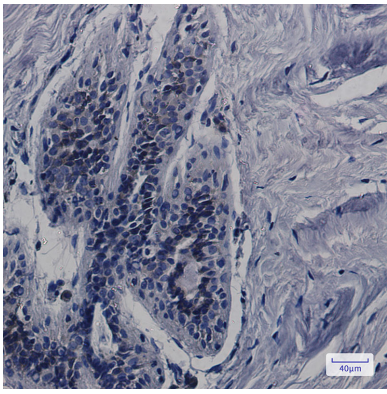
## Images



Western blot analysis of CDK5RAP3 in K562, 3T3 lysates using CDK5RAP3 antibody.

Immunohistochemistry analysis of paraffin-embedded

Human breast cancer using CDK5RAP3 antibody. High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.