

Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP8463b**Specification****Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide - Product Information**

Primary Accession [Q08209](#)
Other Accession [P35813](#)

Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide - Additional Information

Gene ID 5530

Other Names

Serine/threonine-protein phosphatase 2B catalytic subunit alpha isoform, CAM-PRP catalytic subunit, Calmodulin-dependent calcineurin A subunit alpha isoform, PPP3CA, CALNA, CNA

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP8463b](#) was selected from the C-term region of human PPP3CA. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide - Protein Information**Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide - Background**

PPP3CA is a member of the PP2C family of Ser/Thr protein phosphatases. PP2C family members are known to be negative regulators of cell stress response pathways. This phosphatase dephosphorylates, and negatively regulates the activities of, MAP kinases and MAP kinase kinases. It has been shown to inhibit the activation of p38 and JNK kinase cascades induced by environmental stresses. This phosphatase can also dephosphorylate cyclin-dependent kinases, and thus may be involved in cell cycle control. Overexpression of this phosphatase is reported to activate the expression of the tumor suppressor gene TP53/p53, which leads to G2/M cell cycle arrest and apoptosis.

Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide - References

Yoshizaki, T., et al., J. Biol. Chem. 279(21):22715-22726 (2004). Flajolet, M., et al., Proc. Natl. Acad. Sci. U.S.A. 100(26):16006-16011 (2003). Ofek, P., et al., J. Biol. Chem. 278(16):14299-14305 (2003). Matsuda, A., et al., Oncogene 22(21):3307-3318 (2003). Cheng, A., et al., Genes Dev. 13(22):2946-2957 (1999).

Name PPP3CA ([HGNC:9314](#))

Synonyms CALNA, CNA

Function

Calcium-dependent, calmodulin-stimulated protein phosphatase which plays an essential role in the transduction of intracellular Ca^{2+} -mediated signals (PubMed:[15671020](http://www.uniprot.org/citations/15671020) target="_blank">15671020, PubMed:[18838687](http://www.uniprot.org/citations/18838687) target="_blank">18838687, PubMed:[19154138](http://www.uniprot.org/citations/19154138) target="_blank">19154138, PubMed:[23468591](http://www.uniprot.org/citations/23468591) target="_blank">23468591). Many of the substrates contain a PxIxIT motif and/or a LxVP motif (PubMed:[17498738](http://www.uniprot.org/citations/17498738) target="_blank">17498738, PubMed:[17502104](http://www.uniprot.org/citations/17502104) target="_blank">17502104, PubMed:[23468591](http://www.uniprot.org/citations/23468591) target="_blank">23468591, PubMed:[27974827](http://www.uniprot.org/citations/27974827) target="_blank">27974827, PubMed:[22343722](http://www.uniprot.org/citations/22343722) target="_blank">22343722). In response to increased Ca^{2+} levels, dephosphorylates and activates phosphatase SSH1 which results in cofilin dephosphorylation (PubMed:[15671020](http://www.uniprot.org/citations/15671020) target="_blank">15671020). In response to increased Ca^{2+} levels following mitochondrial depolarization, dephosphorylates DNM1L inducing DNM1L translocation to the mitochondrion (PubMed:[18838687](http://www.uniprot.org/citations/18838687) target="_blank">18838687). Dephosphorylates heat shock protein HSPB1 (By similarity). Dephosphorylates and activates transcription factor NFATC1 (PubMed:[19154138](http://www.uniprot.org/citations/19154138) target="_blank">19154138). In response to increased Ca^{2+} levels,

regulates NFAT-mediated transcription probably by dephosphorylating NFAT and promoting its nuclear translocation (PubMed:26248042).
Dephosphorylates and inactivates transcription factor ELK1 (PubMed:19154138).
Dephosphorylates DARPP32 (PubMed:19154138).
May dephosphorylate CRTC2 at 'Ser-171' resulting in CRTC2 dissociation from 14-3-3 proteins (PubMed:30611118).
Dephosphorylates transcription factor TFEB at 'Ser-211' following Coxsackievirus B3 infection, promoting nuclear translocation (PubMed:33691586).

Cellular Location

Cytoplasm. Cell membrane; Peripheral membrane protein. Cell membrane, sarcolemma
{ECO:0000250|UniProtKB:P63329}.
Cytoplasm, myofibril, sarcomere, Z line
{ECO:0000250|UniProtKB:P63329}. Cell projection, dendritic spine.
Note=Colocalizes with ACTN1 and MYOZ2 at the Z line in heart and skeletal muscle (By similarity). Recruited to the cell membrane by scaffold protein AKAP5 following L-type Ca(2+)- channel activation (PubMed:22343722).
{ECO:0000250|UniProtKB:P63329, ECO:0000269|PubMed:22343722}

Tissue Location

Expressed in keratinocytes (at protein level).

Calcineurin (PPP3CA) Antibody (C-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)