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Calcineurin A Rabbit mAb

Catalog # AP77220

Product Information

Application	WB, IF, FC, ICC
Primary Accession	Q08209
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human Calcineurin A
Purification	Affinity Chromatography
Calculated MW	58688

Additional Information

Gene ID	5530
Other Names	PPP3CA
Dilution	WB~~1/500-1/1000 IF~~1:50~200 FC~~1:10~50 ICC~~N/A
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

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, PubMed:18838687, PubMed:19154138, PubMed:23468591, PubMed:30254215). Many of the substrates contain a PxIxIT motif and/or a LxVP motif (PubMed:17498738, PubMed:17502104, PubMed:22343722, PubMed:23468591, PubMed:27974827). In response to increased Ca(2+) levels, dephosphorylates and activates phosphatase SSH1 which results in cofilin dephosphorylation (PubMed:15671020). In response to increased Ca(2+) levels following mitochondrial depolarization, dephosphorylates DNM1L inducing DNM1L translocation to the mitochondrion (PubMed:18838687). Positively regulates the CACNA1B/CAV2.2-mediated Ca(2+) release probability at hippocampal

neuronal soma and synaptic terminals (By similarity). Dephosphorylates heat shock protein HSPB1 (By similarity). Dephosphorylates and activates transcription factor NFATC1 (PubMed: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). Required for postnatal development of the nephrogenic zone and superficial glomeruli in the kidneys, cell cycle homeostasis in the nephrogenic zone, and ultimately normal kidney function (By similarity). Plays a role in intracellular AQP2 processing and localization to the apical membrane in the kidney, may thereby be required for efficient kidney filtration (By similarity). Required for secretion of salivary enzymes amylase, peroxidase, lysozyme and sialic acid via formation of secretory vesicles in the submandibular glands (By similarity). Required for calcineurin activity and homosynaptic depotentiation in the hippocampus (By similarity). Required for normal differentiation and survival of keratinocytes and therefore required for epidermis superstructure formation (By similarity). Positively regulates osteoblastic bone formation, via promotion of osteoblast differentiation (By similarity). Positively regulates osteoclast differentiation, potentially via NFATC1 signaling (By similarity). May play a role in skeletal muscle fiber type specification, potentially via NFATC1 signaling (By similarity). Negatively regulates MAP3K14/NIK signaling via inhibition of nuclear translocation of the transcription factors RELA and RELB (By similarity). Required for antigen-specific T- cell proliferation response (By similarity). Dephosphorylates KLHL3, promoting the interaction between KLHL3 and WNK4 and subsequent degradation of WNK4 (PubMed:30718414). Negatively regulates SLC9A1 activity (PubMed:31375679).

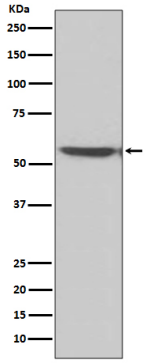
Cellular Location

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) (PubMed:29043977). Expressed in lymphoblasts (at protein level) (PubMed:30254215).

Images



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