

Product datasheet for **RC219136**

Calcineurin A (PPP3CA) (NM_000944) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Calcineurin A (PPP3CA) (NM_000944) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Calcineurin A
Synonyms:	ACCIID; CALN; CALNA; CALNA1; CCN1; CNA1; IECEE; IECEE1; PPP2B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC219136 representing NM_000944
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCGAGCCCAAGCAATTGATCCCAAGTTGTCGACGACCGACAGGGTGGTGAAGCTGTTCCATTTCT
 CCAAGTCACCGCTTACAGCAAAAGAAGTGTGGATAATGATGAAAACCTCGTGTGGATATCTTAAAG
 GCGCATCTTATGAAGGAGGGAAGGCTGGAAGAGAGTGTGCAATTGAGAATAATAACAGAGGGTGCATCA
 ATTCTTCGACAGGAAAAAATTTGCTGGATATTGATGCGCCAGTCACTGTTTGTGGGGACATTCATGGAC
 AATTCTTTGATTTGATGAAGCTCTTTGAAGTCGGGGATCTCCTGCCAACACTCGCTACCTCTTCTTAGG
 GGACTATGTTGACAGAGGGTACTTCAGTATTGAATGTGTGCTGTATTTGTGGCCTTGAAAATCTCTAC
 CCAAAACTGTTTTACTTCGTGAAATCATGAATGTAGACATCTAACAGAGATTTTCACATTTAAAC
 AAGAATGTAATAAAGTATTGAGAACCGTATATGATGCCTGTATGGATGCCTTTGACTGCCTTCCCT
 GGCTGCCCTGATGAACCAACAGTTCCTGTGTGTCATGGTGGTTGTCTCCAGAGATTAACACTTTAGAT
 GATATCAGAAAATTAGACCGATTCAAAGAACCCTGCATATGGACCTATGTGTGATATCCTGTGGTCAG
 ACCCCCTGGAAGATTTTGAAATGAGAAGACTCAGGAACATTTCACTCACAACACAGTCAGGGGGTGTTC
 ATACTTCTACAGTTACCCGGCTGTATGTGAATCTTACAGCACAATAACTTGTATCTATACTCCGAGCC
 CACGAAGCCCAAGATGCAGGGTACCGCATGTACAGGAAAAGCCAAACAACAGGCTTCCCTTCTAATTA
 CAATTTTTTCAGCACAAATTAAGTATGATGATAACAATAACAAGCTGCAGTATTGAAGTATGAGAACAA
 TGTTATGAATATCAGGCAATCAACTGTTCTCCTCATCCATACTGGCTTCCAAATTTTCATGGATGTTTT
 ACTTGGTCCCTTCCATTTGTTGGGAAAAAGTACTGAGATGCTGGTAAATGCTCAACATCTGCTCAG
 ATGATGAAGTGGTTCAGAAAGATGGATTTGATGGTCAACAGCTGCAGCCCGAAAGAGGTGTAAG
 GAACAAGATCCGAGCAATAGGCAAAATGGCCAGAGTGTTCAGTCTCAGAGAAGAGAGTGAAGTGTG
 CTGACGCTGAAAGGCTTGACCCCAACTGGCATGCTCCCAAGCGGAGTACTTTCTGAGGGGAAAGCAACCC
 TGCAAAGCGCTACTGTTGAGGCTATTGAGGCTGATGAAGCTATCAAAGGATTTTACCACAAACATAAGAT
 CACTAGCTTCGAGGAAGCCAAAGGCTTAGACCGAATTAATGAGAGGATGCCGCCTCGCAGAGATGCCATG
 CCCTCTGACGCCAACCTTAAGTCCATCAACAAGGCTCTCACCTCAGAGACTAACGGCACGGACAGCAATG
 GCAGTAATAGCAGCAATATTCAG

ACGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGA
TTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC219136 representing NM_000944
 Red=Cloning site Green=Tags(s)

MSEPKAIDPKLSTDRVVKAVPFPSSHRLTAKEVFDNDGKPRVDILKAHLMKEGRLEESVALRIITEGAS
 ILRQEKNLIDIDAPVTVCGDIHQFFDLMLKFEVGGSPANTRYLFLGDYVDRGYFSIECVLYLWALKILY
 PKTLFLLRGNHECRHLTEYFTFKQECKIKYSERYVDACMDAFDCLPLAALMNQQLCVHGGLSPEINTLD
 DIRKLDRFKEPPAYGPMCDILWSDPLEDFGNEKTQEHFTHNTVRGCSYFYSYPVCEFLQHNNLSILRA
 HEAQDAGYRMYRKSQTTGFPSLITIFSAPNYLDVYNNKAAVLKYENVMNIRQFNCSHPHYWLPNFMDFV
 TWSLPFVGEKVTEMLVNLNICSDELGSEEDGFDGATAARKEVIRNKIRAIGKMARVFSVLRSESESV
 LTLKGLTPTGMLPSGVL SGGKQTLQSATVEAIEADEAIGKFSQHKITSFEEAKGLDRINERMPPRRDAM
 PSDANLNSINKALTSETNGTDSNGSNSSNIQ

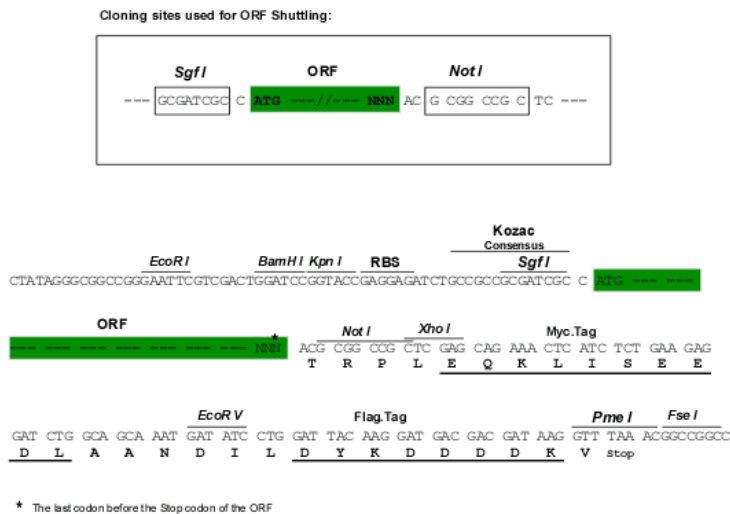
TRRLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mg3238_h03.zip

Restriction Sites:

SgfI-NotI

Cloning Scheme:


ACCN: NM_000944

ORF Size: 1563 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

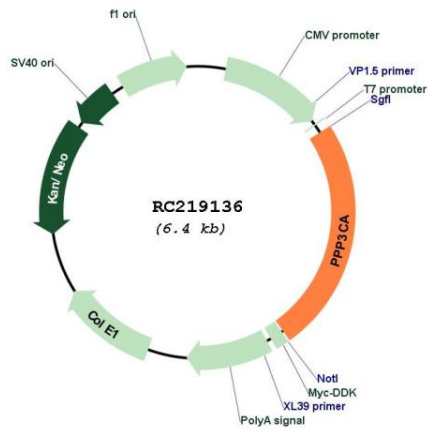
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_000944.5](#)

RefSeq Size:	4425 bp
RefSeq ORF:	1566 bp
Locus ID:	5530
UniProt ID:	Q08209
Cytogenetics:	4q24
Domains:	Metallophos, PP2Ac
Protein Families:	Druggable Genome, Phosphatase
Protein Pathways:	Alzheimer's disease, Amyotrophic lateral sclerosis (ALS), Apoptosis, Axon guidance, B cell receptor signaling pathway, Calcium signaling pathway, Long-term potentiation, MAPK signaling pathway, Natural killer cell mediated cytotoxicity, Oocyte meiosis, T cell receptor signaling pathway, VEGF signaling pathway, Wnt signaling pathway
MW:	58.5 kDa
Gene Summary:	<p>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). Many of the substrates contain a PxlxIT motif and/or a LxVP motif (PubMed:17498738, PubMed:17502104, PubMed:23468591, PubMed:27974827, PubMed:22343722). 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). 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).[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for RC219136