

Product datasheet for **RC225881**

Calcineurin A (PPP3CA) (NM_001130691) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Calcineurin A (PPP3CA) (NM_001130691) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PPP3CA
Synonyms:	ACCIID; CALN; CALNA; CALNA1; CCN1; CNA1; IECEE; IECEE1; PPP2B
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>RC225881 representing NM_001130691
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGTCGAGCCCAAGGCAATTGATCCCAAGTTGTCGACGACCGACAGGGTGGTGAAGCTGTTCCATTTCC
 CTCCAAGTCACCGGCTTACAGCAAAAAGAAGTGTGGATAATGATGGAAAACCTCGTGTGGATATCTTAAA
 GGCGCATCTTATGAAGGAGGGAAGGCTGGAAGAGAGTGTGCATTGAGAATAATAACAGAGGGTGCATCA
 ATTCTTCGACAGGAAAAAATTTGCTGGATATTGATGCGCCAGTCACTGTTTGTGGGGACATTATGGAC
 AATTCTTTGATTTGATGAAGCTCTTTGAAGTCGGGGATCTCCTGCCAACACTCGCTACCTCTTCTTAGG
 GGACTATGTTGACAGAGGGTACTTCAGTATTGAATGTGTGCTGTATTTGTGGCCTTGAAAATCTCTAC
 CCCAAAACACTGTTTTACTTCGTGAAATCATGAATGTAGACATCTAACAGAGTATTTACATTTAAAC
 AAGAATGTAATAAAGTATTCAGAACGCGTATATGATGCCTGTATGGATGCCTTGACTGCCTCCCT
 GGCTGCCCTGATGAACCAACAGTTCCTGTGTGTCATGGTGGTTGTCTCCAGAGATTAACACTTTAGAT
 GATATCAGAAAATTAGACCGATTCAAAGAACCCTGCATATGGACCTATGTGTGATATCCTGTGGTCAG
 ACCCCCTGGAAGATTTGGAAATGAGAAGACTCAGGAACATTTCACTCACAACACAGTCAGGGGGTGTTC
 ATACTTCTACAGTTACCCGGCTGTATGTGAATCTTACAGCACAATAACTTGTATCTATACTCCGAGCC
 CACGAAGCCCAAGATGCAGGGTACCGCATGTACAGGAAAAGCCAAACAACAGGCTTCCCTTCTCTAATTA
 CAATTTTTTTCAGACCAAATTAAGTATGATACAATAACAAAGCTGCAGTATTGAAGTATGAGAACAA
 TGTTATGAATATCAGGCAATTAAGTATGATACAATAACAAAGCTGCAGTATTGAAGTATGAGAACAA
 ACTTGGTCCCTCCATTTGTTGGGAAAAAGTACTGAGATGCTGGTAAATGTCCTCAACATCTGCTCAG
 ATGATGAACATAGGGTCAAGAAGAAGTGGATTTGATGGTCAACAGCTGCAGCCCGAAAAGAGTGATAAG
 GAACAAGATCCGAGCAATAGGCAAAATGGCCAGAGTGTCTCAGTGCTCAGAGAAGAGAGTGAGAGTGTG
 CTGACGCTGAAAAGGCTTGACCCCAACTGGCATGCTCCCCAGCGGAGTACTTTCTGGAGGGAAGCAAAACC
 TGCAAAGCGCTATCAAAGGATTTTACCACAACATAAGATCACTAGCTTCGAGGAAGCCAAAGGGCTTAGA
 CCGAATTAATGAGAGGATGCCGCTCGCAGAGATGCCATGCCCTCTGACGCCAACCTTAAGTCCATCAAC
 AAGGCTCTCACCTCAGAGACTAACGGCACGGACAGCAATGGCAGTAAATAGCAGCAATATTCAG

AG**GCGACCG**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC225881 representing NM_001130691
 Red=Cloning site Green=Tags(s)

MSEPKAIDPKLSTTDRVVKAVPFPPSHRLTAKEVFDNDGKPRVDILKAHLMKEGRLEESVALRIITEGAS
 ILRQEKNLDDIDAPVTVCEDIHGQFFDLMLKFEVGGSPANTRYLFLGDYVDRGYFSIECVLYLWALKILY
 PKTLFLLRGNHECRHLTEYFTFKQECKIKYSERYVDACMDAFDCLPLAALMNQQFLCVHGLSPEINTLD
 DIRKLDRFKEPPAYGPMCDILWSDPLEDFGNEKTQEHFTHNTVRGCSYFYSYPAVCEFLQHNLLSILRA
 HEAQDAGYRMYRKSQTTGFPSLITIFSAPNYLDVYNNKA AVLKYENNVMNIRQFNCSHPHYWLPNFMDFV
 TWSLPFVGEKVTMLVNLNICSDELGSEEDGFDGATAARKEVIRNKIRAIGKMARVFSVLREESV
 LTLKGLTPTGMLPSGVLSGGKQTLQSAIKGFSPQHKITSFEEAKGLDRINERMPPRRDAMPDANLNSIN
 KALTSETNGTDSNGSNSNIQ

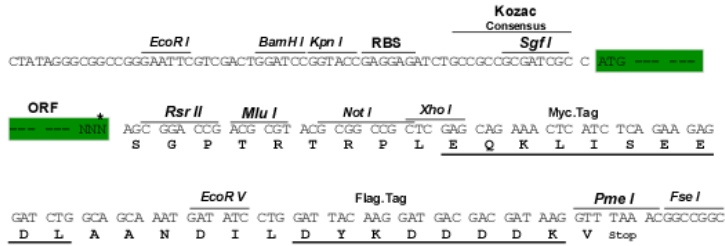
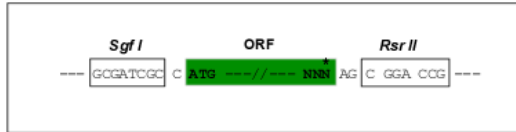
SGP**TRTRRLEQKLI**SEEDLAANDILDYKDDDDKV

Restriction Sites:

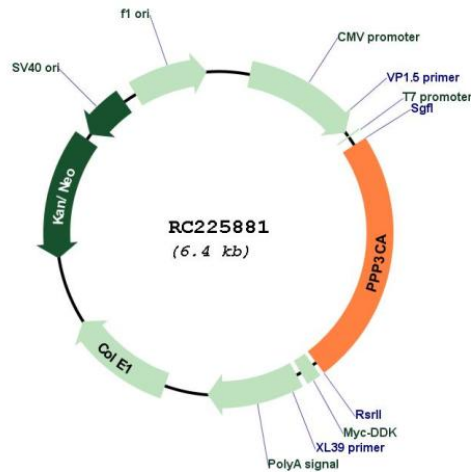
SgfI-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


ACCN: NM_001130691

ORF Size: 1533 bp

OTI Disclaimer: 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_001130691.2](#)

RefSeq ORF: 1536 bp

Locus ID: 5530

UniProt ID: [Q08209](#)

Cytogenetics: 4q24

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: 57.5 kDa

Gene Summary: 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 PxlIT 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]