

Product datasheet for **RG225881**

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:	TurboGFP
Symbol:	PPP3CA
Synonyms:	ACCIID; CALN; CALNA; CALNA1; CCN1; CNA1; IECEE; IECEE1; PPP2B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG225881 representing NM_001130691
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGTCGAGCCCAAGCAATTGATCCCAAGTTGTCGACGACCCAGGGTGGTGAAGCTGTTCCATTTCC
 CTCCAAGTCACCGCTTACAGCAAAAAGAAGTGTGGATAATGATGAAAAACCTCGTGTGGATATCTTAAA
 GGCGCATCTTATGAAGGAGGGAAGGCTGGAAGAGAGTGTTCATTGAGAATAATAACAGAGGGTGCATCA
 ATTCTTCGACAGGAAAAAATTTGCTGGATATTGATGCGCCAGTCACTGTTTGTGGGACATTCATGGAC
 AATTCTTTGATTTGATGAAGCTCTTTGAAGTCGGGGATCTCCTGCCAACACTCGCTACCTCTTCTTAGG
 GGACTATGTTGACAGAGGGTACTTCAGTATTGAATGTGTGCTGTATTTGTGGCCTTGAAAATCTCTAC
 CCCAAAACACTGTTTTACTTCGTGAAATCATGAATGTAGACATCTAACAGAGTATTTACATTTAAAC
 AAGAATGTAATAAAGTATTGAGAACCGGTATATGATGCCTGTATGGATGCCTTTGACTGCCTTCCCT
 GGCTGCCCTGATGAACCAACAGTTCCTGTGTGTCATGGTGGTTGTCTCCAGAGATTAACACTTTAGAT
 GATATCAGAAAAATTAGACCGATTCAAAGAACCCTGCATATGGACCTATGTGTGATATCCTGTGGTCAG
 ACCCCCTGGAAGATTTTGAAATGAGAAGACTCAGGAACATTTCACTCACAACACAGTCAGGGGGTGTTC
 ATACTTCTACAGTTACCCGGCTGTATGTGAATCTTACAGCACAATAACTTGTATCTATACTCCGAGCC
 CACGAAGCCCAAGATGCAGGGTACCGCATGTACAGGAAAAGCCAAACAACAGGCTTCCCTTCTCTAATTA
 CAATTTTTTTCAGCACCAAAATTAAGTATGATAACAATAAAGCTGCAGTATTGAAGTATGAGAACAA
 TGTTATGAATATCAGGCAATCAACTGTCTCCTCATCCATACTGGCTTCCAAATTTTCATGGATGTTTTT
 ACTTGGTCCCTTCCATTTGTTGGGAAAAAGTACTGAGATGCTGGTAAATGCTCAACATCTGCTCAG
 ATGATGAACTAGGGTCAGAAGAAGATGGATTTGATGGTCAACAGCTGCAGCCCGAAAGAGGTGATAAG
 GAACAAGATCCGAGCAATAGGCAAAATGGCCAGAGTGTCTCAGTGCTCAGAGAAGAGAGTGAAGTGTG
 CTGACGCTGAAAGGCTTGACCCCAACTGGCATGCTCCCAAGCGGAGTACTTTCTGAGGGGAAGCAACCC
 TGCAAAGCGCTATCAAAGGATTTTACCACAACATAAGATCACTAGCTTCGAGGAAGCCAAAGGGCTTAGA
 CCGAATTAATGAGAGGATGCCGCTCGCAGAGATGCCATGCCCTCTGACGCCAACCTTAAGTCCATCAAC
 AAGGCTCTCACTCAGAGACTAACGGCACGGACAGCAATGGCAGTAAATAGCAGCAATATTCAG

AGCGGACCGACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG225881 representing NM_001130691
 Red=Cloning site Green=Tags(s)

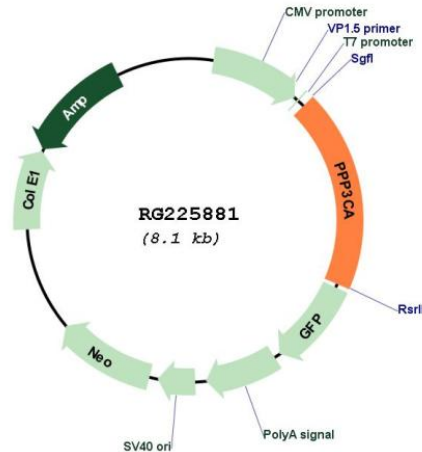
MSEPKAIDPKLSTDRVVKAVPFPSSHRLTAKEVFDNDGKPRVDILKAHLMKEGRLEESVALRIITEGAS
 ILRQEKNLIDIDAPVTVCEDIHGQFFDLMLKFEVGGSPANTRYLFLGDYVDRGYFSIECVLWLWALKILY
 PKTLFLLRGNHECRHLTEYFTFKQECHKIKYSERVYDACMDAFDCLPLAALMNQFLCVHGGLSPEINTLD
 DIRKLDRFKEPPAYGPMCDILWSDPLEDFGNEKTQEHFTHNTVRGCSYFYSYPAVCEFLQHNNLLSILRA
 HEAQDAGYRMYRKSQTTGFPSLITIFSAAPNYLDVYNNKA AVLKYENVMNIRQFNCSHPHYWLPNFMDFV
 TWSLPPFVGEKVTEMLVNVLNICSDDELGSEEDGFDGATAARKEVIRNKIRAIKGMARVFSVLRRESESV
 LTLKGLTPTGMLPSGVLGGKQTLQSAIKGFSPQHKITSFEEAKGLDRINERMPPRRDAMPDANLNSIN
 KALTSETNGTDSNGSNSSNIQ

SGPTRRRLE - GFP Tag - V

Restriction Sites:

Sgfl-RsrII

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 Size: 4646 bp

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

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 PxIxIT 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]