

Product datasheet for RC226477

CACNA1C (NM_001129829) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA1C (NM_001129829) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CACNA1C
Synonyms:	CACH2; CACN2; CACNL1A1; CaV1.2; CCHL1A1; LQT8; TS; TS. LQT8
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC226477 representing NM_001129829 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGTCAATGAGAATACGAGGATGTACATTCCAGAGGAAAACCACCAAGGTTCCAACATATGGGAGCCAC
GCCCGCCCATGCCAACATGAATGCCAATGCGGCAGCGGGGCTGGCCCTGAGCACATCCCACCCCGG
GGCTGCCCTGTCGTGGCAGGCGGCCATCGACGCAGCCCGCAGGCTAAGCTGATGGCAGCGCTGGCAAT
GCGACCATCTCCACAGTCAGCTCCACGCAGCGGAAGCGGCAGCAATATGGGAAACCAAGAAGCAGGGCA
GCACCACGGCCACACGCCCGCCCGAGCCCTGCTCGCTGACCCCTGAAGAACCCTACCGGAGGGCCTG
CATCAGCATTGTGCAATGGAAACCAATTTGAAATAATTATTTACTGACTATTTTTGCCAATTGTGTGGCC
TTAGCGATCTATATTCCTTTCCAGAAGATGATTTCAACGCCACCAATTTCAACCTGGAACGAGTGGAAAT
ATCTCTTTCTCATAATTTTACGGTGGAAGCGTTTTTAAAAGTAATCGCCTATGGACTCCTCTTTACCC
CAATGCCTACCTCCGCAACGGCTGGAACCTACTAGATTTTATAATTGTGGTTGTGGGGCTTTTTAGTGCA
ATTTTAGAACAAGCAACCAAGCAGATGGGCAAAACGCTCTCGGAGGAAAGGGCCGATTTGATGTGA
AGGCGCTGAGGGCCTTCCGCGTGTGCGCCCTGCGGCTGGTGTCCGGAGTCCCAAGTCTCCAGGTGGT
CCTGAATTCATCATCAAGGCCATGGTCCCTGCTGCACATCGCCTGCTTGTGCTGTTTGTCTATCATC
ATCTACGCCATCATCGGCTTGGAGCTTTCATGGGGAAGATGCACAAGACCTGCTACAACAGGAGGGCA
TAGCAGATGTTCCAGCAGAAGATGACCCTTCCCCTTGTGCGCTGGAAACGGGCCAGGGCGGAGTGCCA
GAACGGCACGGTGTGCAAGCCCGCTGGGATGGTCCCAAGCACGGCATCACCAACTTTGACAACCTTGCC
TTCGCCATGCTCACGGTGTTCAGTGCATCACCATGGAGGGCTGGACGGACGTGCTGACTGGGTCAATG
ATGCCGTAGGAAGGGACTGGCCCTGGATCTATTTGTTACTAATCATCATAGGGTCATTTTTTGTACT
TAACTTGGTTCTCGGTGTGCTTAGCGGAGATTTTCAAAGAGAGGGAGAAGGCCAAGGCCCGGGGAGAT
TTCCAGAAGCTGCGGGAGAAGCAGCAGCTAGAAGAGGATCTCAAAGGCTACCTGGATTGGATCACTCAGG
CCGAAGACATCGATCCTGAGAATGAGGACGAAGGCATGGATGAGGAGAAGCCCCGAACATGAGCATGCC
CACCAGTGAGACCGAGTCCGTCAACACCGAAAACGTGGCTGGAGGTGACATCGAGGGAGAAAACCTGCGGG
GCCAGGCTGGCCACCGATCTCCAAGTCAAAGTTCAGCCGCTACTGGCCCGGTGGAATCGGTTCTGCA



[View online >](#)

GAAGGAAGTGCCGCGCCGAGTCAAGTCTAATGTCTTCTACTGGCTGGTGATTTTCTGGTGTTCCTCAA
CACGCTCACCATTGCCTCTGAGCACTACAACCAGCCAACTGGCTCACAGAAGTCCAAGACACGGCAAAC
AAGGCCCTGCTGGCCCTGTTACGGCAGAGATGCTCCTGAAGATGTACAGCCTGGGCTGCAGGCCACT
TCGTGTCCCTCTCAACCGCTTTGACTGCTTCGTGTGTGGCGGCATCCTGGAGACCATCCTGGTGGA
GACCAAGATCATGTCCCACTGGGCATCCTGTGCTCAGATGCGTCCGGCTGTGAGGATTTTCAAGATC
ACGAGGTACTGGAACCTTTGAGCAACCTGGTGGCATCCTTGTGAACTCTGTGCGCTCCATCGCCTCCC
TGCTCCTTCTCCTTCTTCTTCTCATCATCTTCTCCTCCTGGGATGCAGCTTTGGAGAAAGTT
CAACTTTGATGAGATGCAGACCCGAGGAGCACATTCGATAACTTCCCCAGTCCCTCCTCACTGTGTTT
CAGATCCTGACCGGGGAGGACTGGAATTCGGTGTATGATGGGATCATGGCTTATGGCGGCCCTCTT
TTCCAGGGATGTTAGTCTGTATTTACTTTCATCATCCTCTTCTCATCTGTGAAAATATATCCTACTGAATGT
GTTCTTGGCCATTGCTGTGGACAACCTGGCTGTGCTGAGAGCCTCACATCTGCCAAAAGGAGGAGGAA
GAGGAGAAGGAGAGAAAGAAGCTGGCCAGGACTGCCAGCCAGAGAAGAAACAAGAGTTGGTGGAGAAGC
CGGCAGTGGGGAAATCCAAGGAGGAGAAGATTGAGCTGAAATCCATCACGGCTGACGGAGAGTCTCCACC
CGCCACCAAGATCAACATGGATGACCTCCAGCCAAATGAAAATGAGGATAAGAGCCCTACCCCAACCA
GAAACTACAGGAGAAGAGGATGAGGAGGAGCCAGAGATGCTGTGGCCCTCGCCACGACCACTCTCTG
AGTTCACCTTAAGGAAAAGGCAGTGCCATGCCAGAAGCCAGCGGTTTTTTCATCTTCAGCTTAACAA
CAGGTTTTCGCCTCCAGTGCCACCGCATTGTAATGACACGATCTTACCACCTGATCCTTCTTCTTATT
CTGCTCAGCAGCATTTCCCTGGCTGCTGAGGACCCGGTCCAGCACACCTCCTTACGGAACCATATTCTGT
TTTATTTTGATATTGTTTTACCACATTTTACCATTGAAATGCTCTGAAGATGACTGCTTATGGGGC
TTTCTTGACAAGGGTCTTTCTGCCGAACTACTTCAACATCCTGGACCTGCTGGTGGTTCAGCGTGTCC
CTCATCTCCTTTGGCATCCAGTCCAGTGAATCAATGTCGTGAAGATCTTGGAGTCTGCGAGTACTCA
GGCCCCGAGGGCCATCAACAGGGCCAAAGGGCTAAAGCATGTGGTTCAGTGTGTGTTTGTGCCATCCG
TTCAAGGGAAAGCTGTACACCTGTTACAGACAGTTCCAAGCAGACAGAGGGGAATGCAAGGGCAACTACA
TCACGTACAAAGACGGGAGGTTGACCACCCATCATCCAACCCGACGTGGGAGAACAGCAAGTTTGA
CTTTGACAATGTTCTGGCAGCCATGATGGCCCTTTCACCGTCTCCACCTTTCGAAGGGTGGCCAGAGCTG
CTGTACCCTCCATCGACTCCCACACGGAAGACAAGGGCCCCATACAACCTACCCTGTTGGAGATCTCCA
TCTTCTTTCATCATCTACATCATCATCATCGCTTCTTTCATGATGAACATCTTCTGGGCTTCGTATCGT
CACCTTTCAGGAGCAGGGGAGCAGGAGTACAAGAACTGTGAGCTGGACAAGAACCAGCGACAGTGCCTG
GAATACGCCCTCAAGGCCGGCCCTGCGGAGGTACATCCCAAGAACCAGCACCAGTACAAAGTGTGGT
ACGTGGTCAACTCCACTACTTCGAGTACCTGATGTTCTGCTCCTCATCCTGCTCAACACCATCTGCCTGGC
CATGCAGCACTACGGCCAGAGCTGCCTGTTCAAAATCGCCATGAACATCCTCAACATGCTTTCAGTGGC
CTTTCACCGTGGAGATGATCCTGAAGCTCATTGCCTTCAAACCAAGCACTATTTCTGTGATGCATGGA
ATACATTTGACGCCTTGATTGTTGTGGGTAGCATTGTTGATATAGCAATCACCGAGGTAAACCCAGCTGA
ACATACCAATGCTCTCCCTCTATGGGGCCCTCCTGTTCTCACCCCTCTTGTGTGCTAACTGCACCT
CCTGTTGGCGACGGGTTCCAGAAGCAGAGGAAAACCTCCCGCATCCTCACCTTCTCCCGCTGTTCC
GGGTATGCGTCTGGTGAAGCTGCTGAGCCGTGGGAGGGCATCCGGACGCTGCTGTGGACCTTCAACAA
GTCCTTCCAGGCCCTGCCATATGTGGCCCTCCTGATCGTATGCTGTTCTTTCATCTACCGGTGATCGGG
ATGCAGGTGTTTGGGAAAATGCCCTGAATGATACCAGAGATCAACCGGAACAACAACCTTTCAGACCT
TCCCCAGGCCGTGCTGCTCCTTTCAGGTGTGCCACCGGGAGGCTGGCAGGACATCATGCTGGCCTG
CATGCCAGGCAAGAAGTGTGCCAGAGTCCGAGCCAGCAACAGCACGGAGGGTAAACACCTGTGGT
AGCAGCTTTGCTGCTTCTACTTTCATCAGCTTCTACATGCTCTGTGCCTTCTGATCATCAACCTTTTG
TAGCTGTATCATGGACAACCTTTGACTACCTGACAAGGGACTGGTCCATCCTTGGTCCCCACCACCTGGA
TGAGTTTTAAAAGAATCTGGGCAGAGTATGACCCTGAAGCCAAGGGTTCATCAAAACCTGGATGTGGT
ACCCTCCTCCGGCGGATTACGCCCACTAGGTTTTGGGAAGCTGTGCCCTACCCGCTGGCTTGAACAC
GCCTGGTCTCCATGAACATGCCTCTGAACAGCGACGGGACAGTCAATGTTCAATGCCACCTGTTTGCCT
GGTCAGGACGGCCCTGAGGATCAAAACAGAAGAGGGACCCAGCCATCAGAGGCCCAAGGGGCTGAG
GATCCTTTCCGCCCTGCAGGGAACCTAGAACAAGCCAATGAGGAGCTGCGGGCGATCATCAAGAAGATCT
GGAAGCGGACAGCATGAAGCTGCTGGACCAGGTGGTGGCCCTGCAGGTGATGATGAGGTACCCGTTGG
CAAGTTCTACGCCACGTTCTGATCCAGGAGTACTTCCGGAAGTTCAAGAAGCGCAAAGAGCAGGGCCTT
GTGGGCAAGCCCTCCAGAGGAACGCGCTGTCTCTGCAGGCTGGCTTGGCAGACTGCATGACATCGGGC
CTGAGATCCGACGGGCCATCTCTGGAGATCTACCCTGAGGAGGAGCTGGACAAGGCCATGAAGGAGGC

TGTGTCCGCTGCTTCTGAAGATGACATCTTCAGGAGGGCCGGTGGCCTGTTTCGGCAACCACGTCAGCTAC
TACCAAAGCGACGGCCGGAGCGCCTTCCCCAGACCTTACCACCTCAGCGCCCGCTGCACATCAACAAGG
CGGGCAGCAGCCAGGGCGACACTGAGTCGCCATCCCACGAGAAGCTGGTGGACTCCACCTTACCCCGAG
CAGCTACTCGTCCACCGGCTCCAACGCCAACATCAACAACGCCAACACCCGCCCTGGGTGCCTCCCT
CGCCCCGCCGGTACCCAGCACGGTCACTGTGGAGGGCCACGGGCCCCCTTGTCCCTGCCATCC
GGGTGCAGGAGGTGGCGTGAAGCTCAGTCCAACAGGTGCCACTCCCGGAGAGCCAGGCAGCCATGGC
GAGCCCAGCCTGCTCTCCACAGAGATGCTCTCTACCAGGATGACGAAAATCGGCAACTGACGCTCCCAG
AGGAGGACAAGAGGGACATCCGGCAATCTCCGAAGAGGGTTTCTCCGCTCTGCCTCACTAGGTGGAAG
GGCCTCTTCCACCTGGAATGTCTGAAGCGACAGAAGGACCGAGGGGGAGACATCTCTCAGAAGACAGTC
CTGCCCTTGCACTGTTTCATCATCAGGCATTGGCAGTGGCAGGCCTGAGCCCCCTCTCCAGAGAAGCC
ATCCCTGCCTCATTCCCTAGGCCTTTTGCCACCCACCAGCCACACCTGGCAGCCGAGGCTGGCCCC
ACAGCCCGTCCCCACCCTGCGGCTTGAGGGGTGAGTCCAGTGAGAACTCAACAGCAGCTTCCCATCC
ATCCACTGCGGCTCCTGGGCTGAGACCACCCCGGTGGCGGGGCAGCAGCGCCCGGAGAGTCCGGC
CCGTCTCCCTCATGGTGCCAGCCAGGCTGGGGCCCCAGGGAGGCAGTTCACCGCAGTCCAGCAGCCT
GGTGAAGCGGTCTTGATTTAGAAAGGACTGGGGCAGTTTGCTCAAGATCCCAAGTTCATCGAGGTCACC
ACCCAGGAGCTGGCCGACGCTGCGACATGACCATAGAGGAGATGGAGAGCGCGGCCGACAACTCCTCA
GCGGGGGCGCCCCACAGAGCCCCAATGGCGCCCTTTACCCTTTGTGAAGTGCAGGGACGCGGGGCAGGA
CCGAGCCGGGGCGAAGAGGACGCGGGCTGTGTGCGCGCGGGGTGACCGAGTGAGGAGGAGCTCCAG
GACAGCAGGGTCTACGTCAGCAGCCTG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

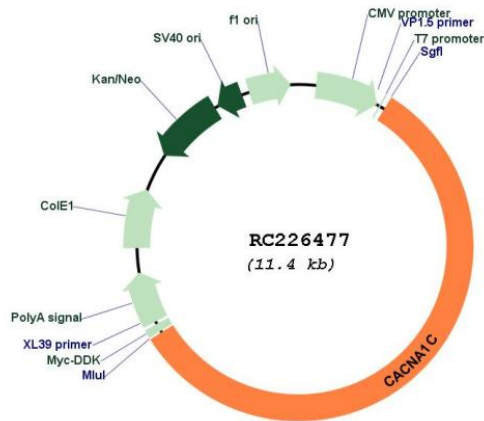
Protein Sequence: >RC226477 representing NM_001129829
 Red=Cloning site Green=Tags(s)

```
MV NENT RMYI PEEN HQS NYG SPR PAHAN MNAN AAA GLA PEHIPTPGAAL SWQAA IDAARQAKLMGSAGN
ATISTV SSTQRKRQ QYGKPKKQGSTTATRPPRALLCLTLKNPIRRACISIVEWKPF EIIILLTIFANCVA
LAIYIPFPEDDSNATNSNLERVEYLFLLIIFTVEAFLKVIAYGLLFHPNAYLRNGWNLLDFIIVVGLFSA
ILEQATKADGANALGGKAGFDVKALRAFRVLRPLRLVSGVPSLQVVLNSIIKAMVPLLHIALLVLFVII
IYAIIGLELFMGKMHKTCYNQEGIADVPAEDDPSPCALETGHGRQCQNGTVCKPGWDGPKHGITNFDNFA
FAMLT VFCITMEGWTDVLYWVND AVGRDWPWIYFVTLIIIGSFFVLNLVLGVLSGEFSKEREKAKARGD
FQKLR EQQL EEDLKG YLDWITQAEDIDPENED EGMDEEKPRNMSMPTSETESVNTENVAGGDIEGECNG
ARLAHRISKSKFSRYWRRWNRFCRRKCAAVKSNVFWLVIFLVFLNLT IASEHYNQPNWLTEVQDTAN
KALLALFTAEMLLKMYSLGLQAYFVSLFNRFDCFVVCGGILETILVETKIMSPLGISVLRVLRLLRIFKI
TRYWNSL SNLVA LLNSVRSIASLLLLLFLFIIIFSLG MQLFGGKFNDEMQRTRSTFDNFPQSLLTVF
QILTGEDWNSVMYD GIMAYGGPSFPGMLVCIYFIIILFICGNYILLNVFLAIAVDNLADAESL TSAQKEE
EEKERKKLARTASPEKKQELVEKPAVGESKEEKIELKSITADGESPPATKINMDDLQPNENEDKSPYNP
ETTGEDEEEPEMPVGRPRPLSELHLKEKAVMPPEASAFFIFSSNNRFRQLQCHRIVNDTIFTNLILFFI
LLSSISLAAEDPVQHTSFRNHILFYFDIVFTTIFTIEIALKMTAYGAFLHKGSFCRNYFNILDLLVVSVS
LISFGIQSSA INVVKILRVLRLRPLRAINRAKGLKHVVQCVFVAIRTI GNIIVITLLQMFACIGVQL
FKGKLYTCS DSSKQTEAECKGN YITYKDG EVDHPIIQPRSWENSKFDFDNVLAAMMALFTVSTFEGWPEL
LYRSIDSHTE DKGPIYNYRVEISIFFIIYIIIIAFFMMNIFVGFVIVTFQE QGEQEYKNC ELDKNQRQCV
EYALKARPLRRYIPKNQH QYKVVYVNSTYFEYLMFVLILLNTICLAMQHYGQSCLFKIAMNILNMLFTG
LFTVEMILKLI AFKPKHYFCDAWNTFDALIVVGSIVDIAITEVNP AEHTQCSPSMGPSCSHPPLAVLTAP
PVADGFGQNAEENSRI SITFFRLFRVMRLVKLLSRGEGIRTL LWTFIKSFQALPYVALLIVMLFFIYAVIG
MQVFGKIALNDTTEINRNNNFQTFPQAVLLLFRCATGEAWQD IMLACMPGKKCAPESEPSNSTEGETPCG
SSF AVFYFISFYMLCAFLIINL FVAVIMDNFDYLTRDWSILGPHHLDEFKRIWAEYDPEAKGR IKHLDVV
TLLRRIQPPLGFGKLCPHRVACKRLVSMNPLNSDGTVMFNATL FALVRTALRIKTEEGSPSEAHQGAE
DPFRPAGNLEQANEELRAI IKKIWKRTSMKLLDQVVPAGDDEVTVGKFYATFLIQEYFRKFKRKEQGL
VGKPSQRNALSLQAGLRTLHDIGPEIRRAISGDLTAE EELDKAMKEAVSAASEDDIFRRAGGLFGNHVSY
YQSDGRSAFPQTFTTQRPLHINKAGSSQGDTESPSHEKLV DSTFTPSSYSSTGSNANINNNANTALGRLP
RPAGYPSTVSTVEGHGPPLSPAIRVQEVAVKLSNRCHSRESQAAMAGQEETSQDETYEVKMNHDTEACS
EPSLLSTEMLSYQDDENRQLTLPEEDKRD IRQSPKRGFLRSASL GRRASFHLECLKRQKDRGGDISQKTV
LPLHLVHHQALAVAGLSPLLQRSHSPASFPRPFATPPATPGSRGWPPQPVP TLRLEGVESSEKLNSSFPS
IHCGSWAETTPGGGSSAARRVRPVSLMVPSQAGAPGRQFHGSASSLVEAVLISEGLGQFAQDPKFI ETV
TQELADACDMTIEEMESAADN ILSGGAPQSPNGALLPFVNCRDAGQDRAGGEEDAGCVRARGRPSEELQ
DSRVVYVSSL
```

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Plasmid Map:


ACCN: NM_001129829

ORF Size: 6537 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:	<ol style="list-style-type: none">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:	<u>NM_001129829.1, NP_001123301.1</u>
RefSeq ORF:	6540 bp
Locus ID:	775
UniProt ID:	<u>Q13936</u>
Cytogenetics:	12p13.33
Protein Families:	Druggable Genome, Ion Channels: Calcium, Transmembrane
Protein Pathways:	Alzheimer's disease, Arrhythmogenic right ventricular cardiomyopathy (ARVC), Calcium signaling pathway, Cardiac muscle contraction, Dilated cardiomyopathy, GnRH signaling pathway, Hypertrophic cardiomyopathy (HCM), Long-term potentiation, MAPK signaling pathway, Type II diabetes mellitus, Vascular smooth muscle contraction
MW:	243.6 kDa
Gene Summary:	This gene encodes an alpha-1 subunit of a voltage-dependent calcium channel. Calcium channels mediate the influx of calcium ions into the cell upon membrane polarization. The alpha-1 subunit consists of 24 transmembrane segments and forms the pore through which ions pass into the cell. The calcium channel consists of a complex of alpha-1, alpha-2/delta, beta, and gamma subunits in a 1:1:1:1 ratio. There are multiple isoforms of each of these proteins, either encoded by different genes or the result of alternative splicing of transcripts. The protein encoded by this gene binds to and is inhibited by dihydropyridine. Alternative splicing results in many transcript variants encoding different proteins. Some of the predicted proteins may not produce functional ion channel subunits. [provided by RefSeq, Oct 2012]