

Product datasheet for **RG226464**

CACNA1C (NM_001129840) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA1C (NM_001129840) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CACNA1C
Synonyms:	CACH2; CACN2; CACNL1A1; CaV1.2; CCHL1A1; LQT8; TS; TS. LQT8
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG226464 representing NM_001129840 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGTCAATGAGAATACGAGGATGTACATTCCAGAGGAAAACCACCAAGTTCCAACATGGGAGCCAC
GCCCGCCCATGCCAACATGAATGCCAATGCGGCAGCGGGGCTGGCCCTGAGCACATCCCCACCCCGG
GGCTGCCCTGTCGTGGCAGGCGGCCATCGACGCAGCCCGCAGGCTAAGCTGATGGGCAGCGCTGGCAAT
GCGACCATCTCCACAGTCAGCTCCACGCAGCGGAAGCGGCAGCAATATGGGAAACCAAGAAGCAGGGCA
GCACCACGGCCACACGCCCGCCCGAGCCCTGCTCTGCCTGACCCTGAAGAACCCATCCGGAGGGCCTG
CATCAGCATTGTCGAATGGAAACCAATTTGAAATAATTATTTACTGACTATTTTGGCAATTGTGTGGCC
TTAGCGATCTATATCCCTTTCCAGAAGATGATCCAACGCCACCAATCCAACCTGGAACGAGTGGAAAT
ATCTCTTTCTCATAATTTTACGGTGGAAGCGTTTTTAAAAGTAATCGCCTATGGACTCCTCTTTACCC
CAATGCCTACCTCCGCAACGGCTGGAACCTACTAGATTTATAATTGTGGTTGTGGGGCTTTTTAGTGCA
ATTTTAGAACAAGCAACCAAGCAGATGGGGCAAACGCTCTCGGAGGGAAAGGGCCGGATTTGATGTGA
AGGCGTGAGGGCCTCCGCGTGTGCGCCCTGCGGCTGGTGTCCGGAGTCCCAAGTCTCCAGGTGGT
CCTGAATTCATCATCAAGGCCATGGTCCCCCTGCTGCACATCGCCCTGCTTGTGCTGTTGTGCATCATC
ATCTACGCCATCATCGGCTTGGAGCTCTCATGGGGAAGATGCACAAGACCTGTACAACCAGGAGGGCA
TAGCAGATGTTCCAGCAGAAGATGACCCTTCCCCTTGTGCGCTGGAAACGGGCCACGGGCGCAGTGCCA
GAACGGCACGGTGTGCAAGCCCGCTGGGATGGTCCCAAGCACGGCATACCAACTTTGACAACCTTTGCC
TTCGCCATGCTCACGGTGTCCAGTGCATACCATGGAGGGCTGGACGGACGTGCTGACTGGATGCAGG
ACGCTATGGGCTATGAGTTACCTGGGTGATTTTGTGCTGCTGGTATCTTTGGATCCTTTTCTGTTCT
AAATCTGGTTCTCGGTGTGTTGAGCGGAGATTTTCAAAGAGAGGGAGAAGGCCAAGGCCCGGGGAGAT
TTCCAGAAGCTGCGGGAGAAGCAGCAGCTAGAAGAGGATCTCAAAGGCTACCTGGATTGGATCACTCAGG
CCGAAGACATCGATCCTGAGAATGAGGACGAAGGCATGGATGAGGAGAAGCCCCGAAACATGAGCATGCC
CACCAGTGAGACCGAGTCCGTCAACACCGAAAACGCTGGCTGGAGGTGACATCGAGGGAGAAAACCTGCGGG



[View online >](#)

GCCAGGCTGGCCACCGGATCTCCAAGTCAAAGTTCAGCCGCTACTGGCGCCGGTGAATCGGTTCTGCA
 GAAGGAAGTGCCGCGCCGAGTCAAGTCTAATGTCTTCTACTGGCTGGTGAATTTCTGGTGTCTCTCAA
 CACGCTCACCAATTGCCTCTGAGCACTACAACCAGCCAACTGGCTCACAGAAGTCCAAGACACGGCAAAC
 AAGGCCCTGCTGGCCCTGTTACGGCAGAGATGCTCCTGAAGATGTACAGCCTGGGCCTGCAGGCCACT
 TCGTGTCCCTCTCAACCGCTTTGACTGCTTCGTGTGTGGCGGCATCCTGGAGACCATCCTGGTGA
 GACCAAGATCATGTCCCACTGGGCATCTCCGTGCTCAGATGCGTCCGGCTGTGAGGATTTTCAAGAT
 ACGAGGTACTGGAACCTTTGACCAACCTGGTGGCATCCTTGTGAACCTGTGCGCTCCATCGCCTCCC
 TGCTCCTTCTCCTTCTCCTTTCATCATCTTCTCCCTCCTGGGGATGCAGCTCTTGGAGGAAAGTT
 CAACTTTGATGAGATGCAGACCCGGAGGAGCACATTGATAAATTCCCCAGTCCCTCCTACTGTGTTT
 CAGATCCTGACCGGGGAGGACTGGAATTCGGTGTATGATGAGGATCATGGCTTATGGCGGCCCTCTT
 TTCCAGGGATGTTAGTCTGTATTTACTTTCATCATCCTCTTTCATCTGTGAAACTATATCCTACTGAATG
 GTTCTTGGCCATTGCTGTGGACAACCTGGCTGATGCTGAGAGCCTCACATCTGCCAAAAGGAGGAGGAA
 GAGGAGAAGGAGAGAAAGAAGCTGGCCAGGACTGCCAGCCAGAGAAGAAACAAGAGTTGGTGGAGAAGC
 CGGCAGTGGGGAAATCCAAGGAGGAGAAGATTGAGCTGAAATCCATCACGGCTGACGGAGAGTCTCCACC
 CGCCACCAAGATCAACATGGATGACCTCCAGCCCAATGAAAATGAGGATAAGAGCCCTACCCCAACCCA
 GAAACTACAGGAGAAGAGGATGAGGAGGAGCCAGAGATGCTGTGGCCCTCGCCACGACCACTCTCTG
 AGCTTACCTTAAGGAAAAGGCAGTGCCCATGCCAGAAGCCAGCGGTTTTTTCATCTTACGCTCTAACAA
 CAGGTTTCGCCTCCAGTGCCACCGCATTGTCAATGACACGATCTTACCACCTGATCCTTCTTTCATT
 CTGCTCAGCAGCATTTCCCTGGCTGCTGAGGACCCGGTCCAGCACACCTCCTCAGGAACCATATCCTAG
 GCAATGCAGACTATGCTTCACTAGTATCTTTACATTAGAAAATTATCCTTAAGATGACTGCTTATGGGGC
 TTTCTTGACAAGGGTCTTTCTGCCGAACTACTTCAACATCCTGGACCTGCTGGTGGTCCAGCGTGTCC
 CTCATCTCCTTTGGCATCCAGTCCAGTCAATCAATGTCGTGAAGATCTTGGAGTCTGCGAGTACTCA
 GGCCCTGAGGGCCATCAACAGGGCCAAGGGGCTAAAGCATGTGGTTCAGTGTGTGTTTGCCTCCCG
 GACCATCGGGAACATCGTGATTGTCACCACCCTGCTGCAGTTCATGTTTGCCTGCATCGGGCTCCAGCTC
 TTCAAGGGAAGCTGTACACCTGTTGACACAGTTCCAAGCAGACAGAGGGGAATGCAAGGGCAACTACA
 TCACGTACAAAGACGGGGAGGTTGACCACCCCATCATCCAACCCCGCAGCTGGGAGAACAGCAAGTTTGA
 CTTTGACAATGTTCTGGCAGCCATGATGGCCCTTTCACCGTCTCCACCTTGAAGGGTGGCCAGAGCTG
 CTGTACCCTCCATCGACTCCCACAGGAAGACAAGGGCCCATCTACAACCTACCGTGTGGAGATCTCCA
 TCTTCTTTCATCATCTACATCATCATCATCGCTTCTTTCATGATGAACATCTTCTGGGCTTCGTCATCGT
 CACCTTTCAGGAGCAGGGGAGCAGGAGTACAAGAACTGTGAGCTGGACAAGAACCAGCAGTACAAAGTGTGT
 GAATACGCCCTCAAGGCCGGCCCTGCGGAGGTACATCCCAAGAACCAGCAGTACAAAGTGTGGT
 ACGTGGTCAACTCCACTACTTCGAGTACTGATGTTCTGCTCATCCTGCTCAACACCATCTGCCTGGC
 CATGCAGCACTACGGCCAGAGCTGCCTGTTCAAAATCGCCATGAACATCCTCAACATGCTTTCCTACTGGC
 CTCTTACCGTGGAGATGATCCTGAAGCTCATTGCCTTCAAACCAAGCACTATTTCTGTGATGCATGGA
 ATACATTTGACGCCTTGATTGTTGTGGGTAGCATTGTTGATATAGCAATCACCGAGGTAACCCAGCTGA
 ACATACCAATGCTCTCCCTCTATGAACGCAGAGGAAAACCTCCCGCATCTCCATCACCTTCTCCGCTG
 TTCCGGTTCATGCGTCTGGTGAAGCTGCTGAGCCGTGGGAGGGCATCCGGACGCTGCTGTGGACCTTCA
 TCAAGTCTTCCAGGCCCTGCCATGTGGCCCTCCTGATCGTGTGCTGTTCTTTCATCTACGCGGTGAT
 CGGGATGCAGGTGTTGGGAAAATTGCCCTGAATGATACCACAGAGATCAACCGGAACAACAACCTTTCAG
 ACCTTCCCCAGCCGTGCTGCTCCTTTCAGGTGTGCCACCGGGGAGGCCTGGCAGGACATCATGCTGG
 CCTGCATGCCAGGCAAGAAGTGTGCCCCAGAGTCCGAGCCAGCAACAGCACGGAGGGTGAACACCCTG
 TGGTAGCAGCTTGTGCTTCTACTTTCATCAGCTTCTACATGCTCTGTGCCTTCTGATCATCAACCTC
 TTTGTAGTGTGATCATGGACAACCTTGTACTACCTGACAAGGACTGGTCCATCCTTGGTCCCCACCACC
 TGGATGAGTTTAAAAGAATCTGGGCAGAGTATGACCCTGAAGCCAAGGGTGTGATCAACACCTGGATGT
 GGTGACCCTCCTCCGGCGGATTCAGCCGCCACTAGTTTTGGGAAGCTGTGCCCTACCCGCTGGCTTGC
 AAACGCCCTGGTCTCCATGAACATGCCTCTGAACAGCGACGGGACAGTGTGTTCAATGCCACCCTGTTT
 CCCTGGTCAAGACGGCCCTGAGGATCAAAACAGAAGGAACTAGAACAAAGCCAATGAGGAGCTGCGGGC
 GATCATCAAGAAGATCTGGAAGCGGACCAGCATGAAGCTGCTGGACCAGGTGGTGGCCCTGCAGGTGAT
 GATGAGGTCAACGTTGGCAAGTCTACGCCAGTTCCTGATCCAGGAGTACTCCGGAAGTTCAAGAAGC
 GCAAAGAGCAGGGCCTTGTGGGCAAGCCCTCCCAGAGGAACGCGCTGTCTCTGCAGGCTGGCTTGCAC
 ACTGCATGACATCGGGCCTGAGATCCGACGGGCCATCTCTGGAGATCTCACCGCTGAGGAGGAGCTGGAC
 AAGCCATGAAGGAGGCTGTGTCGCTGCTTCTGAAGTACATCTTTCAGGAGGGCCGGTGGCCTGTTCCG

GCAACCACGTCAGCTACTACCAAAGCGACGGCCGGAGCGCCTTCCCCAGACCTTCACTCAGCGCCC
GCTGCACATCAACAAGGCGGGCAGCAGCCAGGGCGACTGAGTCGCCATCCCACGAGAAGCTGGTGGAC
TCCACCTTCAACCCGAGCAGCTACTCGTCCACCGGCTCCAACGCCAACATCAACAACGCCAACACCCG
CCCTGGGTCGCCTCCCTCGCCCCGCCGGTACCCAGCAGGTCAGCACTGTGGAGGGCCACGGGCCCC
CTTGTCCCCTGCCATCCGGGTGCAGGAGGTGGCGTGGAAGCTCAGCTCCAACAGGTGCCACTCCGGGAG
AGCCAGGCAGCCATGGCGGTGAGGAGGAGCGTCTCAGGATGAGACCTATGAAGTGAAGATGAACATG
ACACGGAGGCTGCAGTGAGCCAGCCTGCTCTCCACAGAGATGCTCTCCTACCAGGATGACGAAAATCG
GCAACTGACGCTCCAGAGGAGGACAAGAGGGACATCCGGCAATCTCCGAGAGGGGTTTCTCCGCTCT
GCCTACTAGGTGGAAGGCCTCCTCCACCTGGAATGTCTGAAGCGACAGAAGGACCGAGGGGGAGACA
TCTCTCAGAAGACAGTCTGCCCTTGCATCTGGTTCATCATCAGGCATTGGCAGTGGCAGGCCTGAGCCC
CCTCCTCCAGAGAAGCCATTCCCTGCCTATTCCCTAGGCCTTTTGCCACCCACCAGCCACACCTGGC
AGCCGAGGCTGGCCCCACAGCCCGTCCCACCCTGCGGCTTGAGGGGTGAGTCCAGTGAGAACTCA
ACAGCAGCTTCCATCCATCCACTGCGGCTCCTGGGCTGAGACCACCCCGTGGCGGGGCAGCAGCGC
CGCCGGAGAGTCCGGCCGTCTCCTCATGGTGCCAGCCAGGCTGGGGCCCCAGGAGGCAGTCCAC
GGCAGTGCCAGCAGCCTGGTGAAGCGGTCTTGATTTGAGAAGGACTGGGGCAGTTTGCTCAAGATCCCA
AGTTCATCGAGGTCACCACCAGGAGCTGGCCGACGCTGCGACATGACCATAGAGGAGATGGAGAGCGC
GGCCGACAACATCCTCAGCGGGGGCGCCCCACAGAGCCCCAATGGCGCCCTTTACCCCTTGTGAACTGC
AGGGACGCGGGGCAGGACCGAGCCGGGGGGAAGAGGACGCGGGCTGTGTGCGCGCGGGGTGACCCGA
GTGAGGAGGAGCTCCAGGACAGCAGGCTACGTCAGCAGCCTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTAA

Protein Sequence: >RG226464 representing NM_001129840
 Red=Cloning site Green=Tags(s)

```

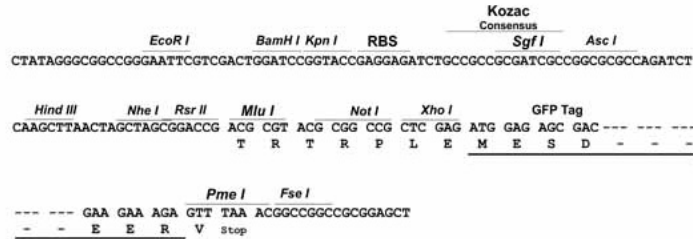
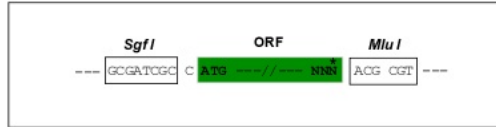
MVNENTRMYIPEENHQGSNYGSPRPAHANMNANAAAGLPEHIPTPGAALSWQAAIDAARQAKLMGSAGN
ATISTVSSSTQRKRQYQYKPKKQGSTTATRPPRALLCLTLKNPIRRACISIVEWKPFEEIIILLTIFANCVA
LAIYIPFPEDDSNATNSNLERVEYLFLLIIFTVEAFLKVIAYGLLFHPNAYLRNGWNLLDFIIVVGLFSA
ILEQATKADGANALGGKAGFDVKALRAFVLRPLRLVSGVPSLQVVLNSIIKAMVPLLHIALLVLFVII
IYAIIGLELFMGKMHKTCYNQEGIADVPAEDDPSPCALETGHGRQCQNGTVCKPGWDGPKHGITNFDNFA
FAMLTVFQCITMEGWTDVLYWMQDAMGYELPWYFVSLVIFGSFFVLNLVLGVLSEFSGKEREKAKARGD
FQKLRKQQLLEEDLKGYLWDWITQAEDIDPENEDEGMDEEKPRNMSMPTSETESVNTENVAGGDIEGENCG
ARLAHRISKSKFSRYWRRWRNRCRRKCAAVKSNVFWLVI FLVFLNLT IASEHYNQPNWLTEVQDTAN
KALLALFTAEMLLKMYSGLQAYFVSLFNRFDCFVCGGILETILVETKIMSPLGISVLRVLRLLRIFKI
TRYWNSLNLVALLNSVRSIASLLLLLFLFIIIFSLGMLFGGKFNDEMQRTRSTFDNFPQSLLTVF
QILTGEDWNSVMYDGMAYGGPSFPGMLVCIYFIIILFICGNYILLNVFLAIAVDNLADAESLTSAQKEE
EEKERKKLARTASPEKKQELVEKPAVGESKEEKIELKSITADGESPPATKINMDDLQPNENEDKSPYNP
ETTGEDEEEPEMPVGRPRPLSELHLKEKAVMPPEASAFFIFSSNNRFRQLQCHRIVNDTIFTNLILFFI
LLSSISLAAEDPVQHTSFRNHILGNADYVFTSIFTLEIILKMTAYGAFLHKGSFCRNYFNILLVVSVS
LISFGIQSSAINVVKILRVLRLRPLRAINRAKGLKHVVQCVFVAIRTIIGNIVIVITLLQFMFACIGVQL
FKGKLYTCSOSSKQTEAECKGNITYYKDGVEDHPIIQPRSWENSKFDFDNVLAAMMALFTVSTFEGWPEL
LYRSIDSHTEKGPINYNRVEISIFFIIYIIIIAFFMMNIFVGFVIVTFQEQGEQEKNCELDKNQRQCV
EYALKARPLRRYIPKNQHQYKVVWVYVNSTYFEYLMFVLILLNTICLAMQHYGQSCLFKIAMNILNMLFTG
LFTVEMILKLI AFKPKHYFCDAWNTFDALIVVGSIVDIAITEVNP AEHTQCSPSMNAEENSRSITFFRL
FRVMRLVKLLSRGEGIRTLWTFIKSFQALPYVALLIVMLFFIYAVIGMQVFGKIALNDTTEINRNNNFQ
TFPQAVLLLFRCATGEAWQDIMLACMPGKKCAPESEPSNSTEGETPCGSSFAVFYFISFYMLCAFLIINL
FVAVIMDNFDYLTRDWSILGPHHLDEFKRIWAEYDPEAKGRIKHLDVVTLLRRIQPPLGFGKLCPHRVAC
KRLVSMNPLNSDGTVMFNATL FALVRTALRIKTEGNLEQANEELRAIIKKIWKRTSMKLLDQVVPAGD
DEVTVGKFYATFLIQEYFRKFKRKEQGLVGKPSQRNALSLQAGLRTLHDIGPEIRRAISGDLTAEELD
KAMKEAVSAASEDDIFRRAGGLFGNHVSYYSQSDGRSAFPQTFTTQRPLHINKAGSSQGDTESPSHEKLV
STFTPSSYSSTGSNANINNANTALGRLPRPAGYPSTVSTVEGHGPPLSPAIRVQEVAVKLSNRCHSRE
SQAAMAGQEETSQDETYEVKMNHDTEACSEPSLLSTEMLSYQDDENRQLTLPEEDKRDIRQSPKRGFLRS
ASLGRRASFHLECLKRQKDRGGDISQKTVLPLHLVHHQALAVAGLSPLLQRSHSPASFPRPFATPPATPG
SRGWPPQVPVTLRLEGVESSEKLNSSFPSIHCGSWAETTPGGGGSSAARRVRPVSMLMVPVQAGAPGRQFH
GSASSLVEAVLISEGLGQFAQDPKIEVTTQELADACDMTIEEMESAADNLSGGAPQSPNGALLPFVNC
RDAGQDRAGGEEDAGCVRARGRPSEEELQDSRVVYSSL
  
```

TRTRPLE - GFP Tag - V

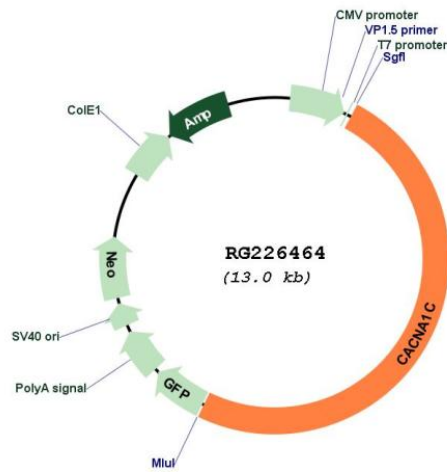
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM_001129840
 ORF Size: 6414 bp

OTI Disclaimer:	<p>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.</p> <p>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</p>
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:	NM_001129840.2
RefSeq Size:	13480 bp
RefSeq ORF:	6417 bp
Locus ID:	775
UniProt ID:	Q13936
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

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]