

Product datasheet for RC226486

CACNA1A (NM_001127222) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA1A (NM_001127222) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CACNA1A
Synonyms:	APCA; BI; CACNL1A4; CAV2.1; DEE42; EA2; EIEE42; FHM; HPCA; MHP; MHP1; SCA6
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC226486 representing NM_001127222 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGC**C

ATGGCCCGCTTCGGAGACGAGATGCCGGCCGCTACGGGGGAGGAGGCTCCGGGGCAGCCCGGGGTGG
TCGTGGGCAGCGGAGGCGGGCGAGGAGCCGGGGCAGCCGGCAGGGCGGGCAGCCCGGGCGCAAAGGAT
GTACAAGCAGTCAATGGCGCAGAGAGCGCGGACCATGGCACTCTACAACCCATCCCCGTCGACAGAAC
TGCCTCAGGTTAACCGTCTCTCTTCCCTTTCAGCGAAGACAACGTGGTGAGAAAATACGCCAAAAGA
TCACCGAATGGCCTCCCTTTGAATATATGATTTTAGCCACCATCATAGCGAATTGCATCGTCTCGCACT
GGAGCAGCATCTGCCTGATGATGACAAGACCCCGATGTCTGAACGGCTGGATGACACAGAACCATACTTC
ATTGGAATTTTTGTTTCGAGGCTGGAATAAAATCATTGCCCTTGGGTTTGCCTTCCACAAAGGCTCCT
ACTTGAGGAATGGCTGGAATGTCATGGACTTTGTGGTGGTCTAACGGGCATCTTGGCGACAGTTGGGAC
GGAGTTTGACCTACGGACGCTGAGGGCAGTTCGAGTGTGCGGCCGCTCAAGCTGGTGTCTGGAATCCCA
AGTTTACAAGTCGTCTGAAGTCGATCATGAAGGCGATGATCCCTTTGCTGCAGATCGGCCTCCTCCTAT
TTTTTGCAATCCTTATTTTTGCAATCATAGGGTTAGAATTTTATATGGGAAAATTCATACCACCTGCTT
TGAAGAGGGGACAGATGACATTCAGGGTGAGTCTCCGGCTCCATGTGGGACAGAAGAGCCCGCCGACCC
TGCCCCAATGGGACCAAATGTCAGCCCTACTGGAAAGGGCCCAACAACGGGATCACTCAGTTCGACAACA
TCCTGTTTGCAGTGTGACTGTTTTCCAGTGCATAACCATGGAAGGGTGGACTGATCTCCTTACAATAG
CAACGATGCCTCAGGGAACACTTGGAACTGGTTGACTTCACTCCCTCATCATCGGCTCCTTTTTT
ATGCTGAACCTTGTGCTGGTGTGCTGTGAGGGAGTTTGCCAAAGAAAGGGAACGGGTGGAGAACCAGC
GGGCTTTTCTGAAGCTGAGGCGGCAACAACAGATTGAACGTGAGCTCAATGGGTACATGGAGTGGATCTC
AAAAGCAGAAGAGGTGATCCTCGCCGAGGATGAACTGACGGGAGCAGAGGCATCCCTTTGATGCTCTG
CGGAGAACCACCATAAAGAAAAGCAAGACAGATTTGCTCAACCCGAAGAGGCTGAGGATCAGCTGGCTG
ATATAGCTCTGTGGTTCTCCCTTCGCCCAGCCAGCATTAAAAGTGCCAAGCTGGAGAAGCTCGACCTT
TTTTACAAAAAGGAGAGGAGGATGCGTTTCTACATCCGCCGATGGTCAAAAAGCTCAGGCCTTCTACTGG
ACTGTACTCAGTTTGGTAGCTCTCAACACGCTGTGTGTTGCTATTGTTCACTACAACAGCCGAGTGGC



[View online »](#)

TCTCCGACTTCCTTTACTATGCAGAATTCATTTTCTTAGGACTCTTTATGTCCGAAATGTTTATAAAAAT
 GTACGGGCTTGGGACGCGGCCTTACTTCCACTCTTCTTCAACTGCTTTGACTGTGGGGTATCATTGGG
 AGCATCTTCGAGGTCACTGCGGTGTCATAAACTGGCACATCCTTTGGAATCAGCGTGTACGAGCCC
 TCAGGTTATTGCGTATTTTCAAAGTCAAAAGTACTGGGCATCTCTCAGAAACCTGGTCGTCTCTCTCT
 CAACTCCATGAAGTCCATCATCAGCCTGTTGTTTCTCTTTTCTGTTTATTGTCGTCTTCGCCCTTTG
 GGAATGCAACTCTTCGGCGGCCAGTTAATTTTCGATGAAGGGACTCTCCACCAACTTCGATACTTTTC
 CAGCAGCAATAATGACGGTGTTCAGATCCTGACGGGGCAAGACTGGAACGAGGTCACTACGACGGGAT
 CAAGTCTCAGGGGGCGTGCAGGGCGGCATGGTGTCTCCATCTATTTTATTGACTGACGCTCTTTGGG
 AACTACACCCTCCTGAATGTGTTCTTGCCATCGCTGTGGACAATCTGGCCAACGCCAGGAGCTCACCA
 AGGACGAGCAAGAGGAAGAAGAAGCAGCGAACCAGAACTTGCCCTACAGAAAGCCAAGGAGGTGCGAGA
 AGTGAGTCTCTGTCCGCGGCCAACATGTCTATAGCTGTGAAAGAGCAACAGAAGAATCAAAAGCCAGCC
 AAGTCCGTGTGGGAGCAGCGGACCAGTGAGATGCGAAAGCAGAACTTGTGGCCAGCCGGGAGGCCCTGT
 ATAACGAAATGGACCCGACGAGCGCTGGAAGGCTGCCTACACGCGGCACCTGCGCCAGACATGAAGAC
 GCATTGGACCGCCGCTGGTGGTGGACCCGACGAGGAAACCGCAACAACAACCAACAAGAGCCGGGCG
 GCCGAGCCACCCTGGACCAGCGCCTCGCCAGCAGCGCCGAGGACTTCTCAGGAAACAGGCCCGCT
 ACCACGATCGGGCCCGGACCCAGCGGCTCGGCGGGCCTGGACGCACGAGGCCCTGGGCGGGAAGCCA
 GGAGGCCGAGCTGAGCCGGGAGGGACCTACGGCCGCGAGTGGACCACCACGCCCGGGAGGGCAGCCTG
 GAGCAACCCGGGTTCTGGGAGGGCGAGGCCGAGCGAGGCAAGGCCGGGGACCCACCGGAGGCAGTGC
 ACCGGCAGGGGGCAGCAGGGAGAGCCGAGCGGGTCCCGCGCACGGGCGCGGACGGGGAGCATCGACG
 TCATCGCGCGCACCGCAGGCCCGGGGAGGAGGTTCCGGAGGACAAGGCCGAGCGGAGGGCGCGCACCCG
 GAGGGCAGCCGGCCCGGCCGGCGGAGGGCGAGGGCGAGGGCCCCGACGGGGCGAGCGCAGGAGAA
 GGCACCCGCATGGCGTCCAGCCACGTACGAGGGGACGCGCGGAGGGAGGACAAGGAGCCGGGACATCG
 GAGGAGGAAAGAAACACAGGGCTCCGGGTTCCCTGTGTGGGCCCAACCTGTCAACCCCGGCAATC
 CAGCAGGACTGGGCCGCAAGACCCACCCCTGGCAGAGGATATTGACAACATGAAGAACAACAAGCTGG
 CCACCGCGGAGTGGCCGCTCCCCACGGCAGCCTTGCCACGCGGCCTGCCCAAGACCCAGCCAAAGT
 GGGAAACAGCACCCAGCCCGGCCCATGCTGGCCATCCCTGCCATGGCCACCAACCCCAAGAACGCCGCC
 AGCCGCGGACGCCCAACAACCCGGGAACCCATCCAATCCCGGCCCCCAAGACCCCGAGAATAGCC
 TTATCGTACCAACCCAGCGGCACCCAGACCAATTAGCTAAGACTGCCAGGAAACCCGACCACACCAC
 AGTGGACATCCCCCAGCCTGCCACCCCCCTCAACCACACCGTGTACAAGTGAACAAAAACGCCAAC
 CCAGACCCACTGCCAAAAAAGAGGAAGAGAAGAAGGAGGAGGAGGAAGACGACCGTGGGAAGACGGCC
 CTAAGCCAATGCCTCCCTATAGCTCCATGTTTCATCTGTCCACGACCAACCCCTTCGCCGCTGTGCCA
 TTACATCCTGAACCTGCCTACTTTGAGATGTGCATCCTCATGGTCATTGCCATGAGCAGCATCGCCCTG
 GCCGCCGAGGACCTGTGCAGCCCAACGCACCTCGGAACAACGTGCTGCGATACTTTGACTACGTTTTTA
 CAGGCGTCTTTACCTTTGAGATGGTGATCAAGATGATTGACCTGGGGCTCGTCTGCATCAGGGTGCCTA
 CTTCCGTGACCTCTGGAATATTCTCGACTTCATAGTGGTCAGTGGGGCCCTGGTAGCCTTTGCCTTCACT
 GGCAATAGCAAAGGAAAAGACATCAACACGATTAATCCCTCCGAGTCTCCGGGTGCTACGACCTTTA
 AAACCATCAAGCGGCTGCCAAAGCTCAAGGCTGTGTTGACTGTGTGGTGAACACTTAAAAACGTCTT
 CAACATCTCATCGTCTACATGCTATTATGTTTCATCTTCGCCGTGGTGGCTGTGCAGCTTTCAAGGG
 AAATTTCTCACTGCACTGACGAGTCCAAGAGTTTGAAGAAATTTGTCGAGGCAAAATACCTCCTACG
 AGAAGAATGAGGTGAAGGCGGAGACCCGGGAGTGAAGAAGTGAATTCATTACGACAATGTGCTGTG
 GGCTCTGCTGACCCTTTCACCGTGTCCACGGGAGAAGGCTGGCCACAGGTCTCAAGCATTTCGGTGGAC
 GCCACCTTTGAGAACCAGGGCCCCAGCCCCGGTACCAGCATGGAGATGTCCATTTTCTACGTCGTCTACT
 TTGTGGTGTTCCTTCTTTGTCAATATCTTTGTGGCCTTGATCATCATCACCTTCCAGGAGCAAGG
 GGACAAGATGATGGAGGAATACAGCCTGGAGAAAAATGAGAGGGCCTGCATTGATTTCCGCATCAGCGCC
 AAGCCGCTGACCCGACACATGCCGAGAAACAAGCAGAGCTTCCAGTACCAGCATGTGCAGTTTCGTGGTGT
 CTCCGCTTTTCGAGTACAGCATCATGGCCATGATCGCCCTCAACACCATCGTGTATGATGAAGTTCTA
 TGGGGCTTCTGTTGCTTATGAAAATGCCCTGCGGGTGTCAACATCGTCTTACCTCCCTCTTCTCTCTG
 GAATGTGTGCTGAAAGTCATGGCTTTTGGGATTCTGAATTATTTCCGCGATGCCTGGAACATCTTCGACT
 TTGTGACTGTTCTGGGACGATCACCGATATCCTCGTACTGAGTTTGGGAATAACTTCAACCTGAG
 CTTTCTCCGCTCTTCCGAGCTGCCCGGCTCATCAAATCTCCGTCAGGGTTACACCATCCGCATTCTT
 CTCTGGACCTTTGTGAGTCTTCAAGGCCCTGCCTATGTCTGTCTGTGATCGCCATGCTCTTCTTCA
 TCTATGCCATCATTGGGATGCAGGTGTTTGGTAACATTGGCATCGACGTGGAGGACGAGGACAGTATGA

AGATGAGTTCCAATCACTGAGCACAATAACTCCGGACCTTCTCCAGGCCCTCATGCTTCTCTCCGG
AGTGCCACCGGGGAAGCTTGGCACAACATCATGCTTTCCTGCCTCAGCGGGAAACCGTGTGATAAGAACT
CTGGCATCCTGACTCGAGAGTGTGGCAATGAATTTGCTTATTTTTACTTTGTTTCCTTCTTCTCTCTG
CTCGTTTCTGATGCTGAATCTCTTTGTCGCCGTATCATGGACAACTTTGAGTACCTCACCCGAGACTCC
TCCATCCTGGGCCCCACCACCTGGATGAGTACGTGCGTGTCTGGGCCGAGTATGACCCCGCAGCTTGGG
GCCGCATGCCTTACCTGGACATGTATCAGATGCTGAGACACATGTCTCCGCCCTGGGTCTGGGAAGAA
GTGTCCGGCCAGAGTGGCTTACAAGCGGCTTCTGCGGATGGACCTGCCCGTCGCAGATGACAACACCGTC
CACTTCAATTCCACCCTCATGGCTCTGATCCGCACAGCCCTGGACATCAAGATTGCCAAGGGAGGAGCCG
ACAAACAGCAGATGGACGCTGAGCTGCGGAAGGAGATGATGGCGATTGGCCCAATCTGTCCCAGAAGAC
GCTAGACCTGCTGGTCACACCTCACAAGTCCACGGACCTCACCGTGGGAAGATCTACGCAGCCATGATG
ATCATGGAGTACTACCGGCAGAGCAAGGCCAAGAAGCTGCAGGCCATGCGCGAGGAGCAGGACCGGCAC
CCCTCATGTTCCAGCGCATGGAGCCCCGTCCCCAACGCAGGAAGGGGGACCTGGCCAGAACGCCCTCCC
CTCCACCAGCTGGACCAGGAGGAGCCCTGATGGCTCACGAAAGCGGCCTCAAGGAGAGCCCGTCTGG
GTGACCCAGCGTCCCAGGAGATGTTCCAGAAGACGGGCACATGGAGTCCGGAACAAGGCCCCCTACCG
ACATGCCAACAGCCAGCCTAATCTCAGTCCGTGGAGATGCGAGAGATGGGCAGAGATGGCTACTCCGA
CAGCGAGCACTACCTCCCATGGAAGGCCAGGGCCGGGCTGCCTCCATGCCCCGCTCCCTGCAGAGAAC
CAGAGGAGAAGGGGCCGGCCACGTGGGAATAACCTCAGTACCATCTCAGACACCAGCCCATGAAGCGTT
CAGCCTCCGTGCTGGGCCCAAGGCCCGACGCCTGGACGATTACTCGTGGAGCGGGTCCCAGCCGAGGA
GAACCAGCGGCACCAGCGGCCCGCGACCGCAGCCACCGCGCCTCTGAGCGTCCCTGGGCCGCTAC
ACCGATGTGGACACAGGCTTGGGGACAGACCTGAGCATGACCACCAATCCGGGGACCTGCCGTGAAAG
AGCGGGACCAGGAGCGGGGCCGGCCCAAGGATCGGAAGCATCGACAGCACCACCACCACCACCACCA
CCACCATCCCCGCCCCCGACAAGGACCGCTATGCCAGGAACGGCCGGACCAGGCCGGGCACGGGCT
CGGGACCAGCGTGGTCCGCTCGCCCAGCGAGGGCCGAGAGCACATGGCGCACCGGCAGGGCAGTAGTT
CCGTAAGTGGAAGCCCAGCCCCCTCAACATCTGGTACCAGCACTCCGCGCGGGGCCGCCAGCTCCC
CCAGACCCCTCCACCCCGGCCACACGTGTCTATTCCCCTGTGATCCGTAAGGCCGGCGGCTCGGGG
CCCCCGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGGCGGTGGCCAGGCGGGCCGGGCGG
CCACCAGCGGCCCTCGGAGGTACCCAGGCCCCACGGCCGAGCCTCTGGCCGGAGATCGGCCGCCACGGG
GGGCCACAGCAGCGGCCGCTCGCCCAGGATGGAGAGGGGGTCCCAGGCCGGCCCGGAGCGAGTCCCC
AGGGCTGTGACACGGCGGGGCCGGTGGCCGGCATCTGGCCCGCACGTGTCCGAGGGGCCCGGGT
CCCGGCACCATGGCTACTACCGGGCTCCGACTACGACGAGGCCGATGGCCGGGCGAGCGGGGGCGGCA
GGAGGCCATGGCCGGGGCTACGACGCGCCACCCCGTACGACACGCGTCTCGGGCGCCACCGGGCGC
TCGCCCAGGACTCCCCGGGCTCGGGCCCGGCTGCGCCTCGCCTTCTCGGCACGGCCGGCGACTCCCCA
ACGGCTACTACCGGGCGACGGACTGGCCAGGCCCGGGGCCGGGCTCCAGGAAGGGCTGCACGAACC
CTACAGCGAGAGTGACGATGATTGGTGC

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
TGGATTACAAGGATGACGACGATAAGGTTTAA

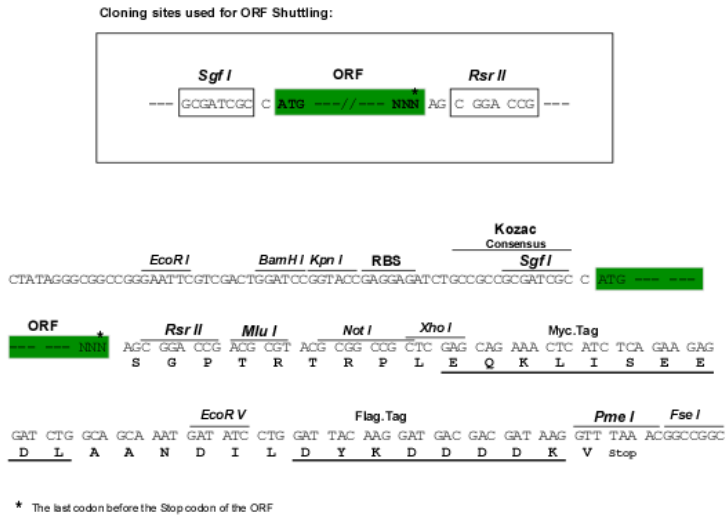
Protein Sequence: >RC226486 representing NM_001127222
 Red=Cloning site Green=Tags(s)

MARFGDEMPARYGGGGSGAAAGVVVSGGGGRGAGGSRQGGQPGAQRMYKQSMARARTMALYNPIPVRQN
 CLTVNRSFLFSEDNVVRKYAKKITTEWPPFEYMILATIIANCIVLALEQHLRDDDKTPMSERLDDTEPYF
 IGIFCFEAGIKIIALGF AFHKGSYLRNGWNVMDFFVVLTGILATVGTDFDLRTRAVRVLRLKLVSGIP
 SLQVVLKSIMKAMIPLLQIGLLFFAILIFAIIGLEFYMGKFHTTCFEEGTDIIQGESAPCPGTEEPART
 CPNGTKQOPYWEGPNNGITQFDNILFAVLTVFQCITMEGWTDLLYNSNDASGNTWNWLYFIPLIIIGSFF
 MLNLVLGVLSGEFAKERERVENRRAFLKLRQQQIERELNGYMEWISKAEVILAEDETGEQRHPFDAL
 RRTTIKSKTDLLNPEEAEDQLADIASVGSPPFARASIKSAKLENSTFFHKERRMRFYIRRMVKTAQFYW
 TVLSLVALNTLCVAIVHYNQPEWLSDFLYYAEIFLGLFMSEMIKMYGLTRPYFHSSFNCFDCGVIIIG
 SIFEVIWAVIKPGTSFGISVLRALRLRIFKVTKYWASLRNLVVSLLNSMKSIIISLLFLLFIVV FALL
 GMQLFGGQFNDFEGTPTNFDTFPAAIMTVFQILTGEDWNEVMYDGIKSQGGVQGGMVFSIYFIVLTLFG
 NYTLLNVFLAIVDNLANAQELTKDEQEEEEAAQKLLQKAKEVAEVSPLSAANMSIAVKEQQKNQKPA
 KSVWEQRTSEMRKQNLASREALYNEMDPDERWKAAYTRHLRPMKTHLDRPLVVDPPQENRNNNTNKSRA
 AEPTVDQRLGQQAEDFLRKQARYHDRARDPSGSAGLDARRPWAGSQEAELSGREPYGRESDDHAREGSL
 EQPGFWEGEAERKAGDPHRRHVHRQGSRESRSGSPRTGADGEHRRHRARRHPGEEGPEDKAERRARHR
 EGSRPARGEGEGEGPDGGERRRRRHRGAPATYEGDARREDKERRRRRKENQSGVVPVSGPNLSTTRPI
 QQDLGRQDPLAEDIDNMKNNKLATAESAAPHGSLGHAGLPQSPAKMGNSTDPGPMIAIPAMATNPQNA
 SRRTPNPNPNSP
 PDPLPKKEEKEEEDDRGEDGPKMPPYSSMFI LSTNPLRRLCHYLNLRYFEMCILMVIAMSSIAL
 AAEDVPQPNAPRNNVLRVDFYVFTGVFTFEMVIK MIDLGLVLHQGAYFRDLWNILDFIVVSGALVAFAT
 GNSKGDINTIKSLRVLRLRPLKTIKRLPKLKA VFDVNVSLKNVFNILIVYMLFMFIFAVVAVQLFKG
 KFFHCTDESKFEKDCRGKYLLEYKNEVKARDREWKKYEFHYDNVLWALLTLFTVSTGEGWPQVLKHSVD
 ATFENQPSPGYRMEMSIFYVVYFVVFVFFVNIIFVALIIITFQEQGDKMMEYSLEKNERACIDFAISA
 KPLTRHMPQNKQSFQYRMWQFVVSPPFEYTIMAMIALNTIVLMMKFGASVAYENALRVFNIVFTSLFSL
 ECVLKVMAFGILNYFRDAWNIFDFVTLGSDITDILVTEFGNNFINLSFLRLFRAARLIKLLRQGYTIRIL
 LWTFVQSFKALPYVCLLIAMLFFIYAIIGMQVFGNIGIDVEDEDSDEDEFQITEHNNFRFFFQALMLLFR
 SATGEAWHNIMLSCLSGKPCDKNSGILTRECGNEFAYFYVVSFIFLCSFLMLNLFVAVIMDNFEYLTRDS
 SILGPHHLDEYVRVWAEYDPAAWGRMPYLDMYQMLRHMSPLGLGKKCPARVAYKRLLRMDLPVADDNTV
 HFNSTLMALIRTALDIKIAKGGADKQQMDAELRKEEMAIWPNLSQKTLDLLVTPHKSTDLTVGKIYAAMM
 IMEYYRQSKAKKLQAMREEQDRTPLMFQRMEPPSPTQEGGPGQNALPSTQLDPGGALMAHESGLKESPSW
 VTQRAQEMFQKTGTWSPEQGPPTDMPNSQPNSQSSEMREMGRDGYSDSEHYLPMEGQGRAASMPRLPAEN
 QRRRGRPRGNLSTISDTPMKRSASVLPKARRLDDYSLERVPPEENQRHHQRRRDRSHRASERSLGRY
 TDVDTGLGTDLSMTTQSGDLPSKERDQERGRPKDRKHRQH HHHHHHHHHHHPPPPDKDRYAQERPDHGRARA
 RDQRWSRSPSEGREHMAHRQSSSVSGSPAPSTSGTSTPRRGRRLPQTPSTPRPHVSYSVPVIRKAGGSG
 PPQQQQQQQQQQQAVARPGRAATSGPRRYPGPTAEPLAGDRPPTGGHSSGRSPRMERRVPGPARSESP
 RACRHGGARWPAASGPHVSEGGPPGRHHGYYRGSYDEADGPGSGGGEEAMAGAYDAPPVVRHASSGATGR
 SPRTPRASGPACASPSRHGRRLPNGYYP AHGLARPRGPGSRKGLHEPYSESDDDWC

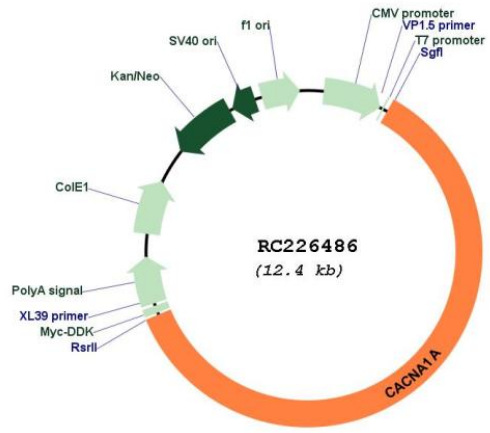
SGP TRRRLEQLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-RsrII

Cloning Scheme:



Plasmid Map:



ACCN: NM_001127222
 ORF Size: 7518 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:	NM_001127222.2
RefSeq ORF:	7521 bp
Locus ID:	773
UniProt ID:	O00555
Cytogenetics:	19p13.13
Protein Families:	Druggable Genome, Ion Channels: Calcium, Transmembrane
Protein Pathways:	Calcium signaling pathway, Long-term depression, MAPK signaling pathway, Taste transduction, Type II diabetes mellitus
MW:	282.4 kDa

Gene Summary:

Voltage-dependent calcium channels mediate the entry of calcium ions into excitable cells, and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, and gene expression. Calcium channels are multisubunit complexes composed of alpha-1, beta, alpha-2/delta, and gamma subunits. The channel activity is directed by the pore-forming alpha-1 subunit, whereas, the others act as auxiliary subunits regulating this activity. The distinctive properties of the calcium channel types are related primarily to the expression of a variety of alpha-1 isoforms, alpha-1A, B, C, D, E, and S. This gene encodes the alpha-1A subunit, which is predominantly expressed in neuronal tissue. Mutations in this gene are associated with 2 neurologic disorders, familial hemiplegic migraine and episodic ataxia 2. This gene also exhibits polymorphic variation due to (CAG)*n*-repeats. Multiple transcript variants encoding different isoforms have been found for this gene. In one set of transcript variants, the (CAG)*n*-repeats occur in the 3' UTR, and are not associated with any disease. But in another set of variants, an insertion extends the coding region to include the (CAG)*n*-repeats which encode a polyglutamine tract. Expansion of the (CAG)*n*-repeats from the normal 4-18 to 21-33 in the coding region is associated with spinocerebellar ataxia 6. [provided by RefSeq, Jul 2016]