

Product datasheet for **RG230748**

CACNA1A (NM_001174080) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA1A (NM_001174080) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CACNA1A
Synonyms:	APCA; BI; CACNL1A4; CAV2.1; DEE42; EA2; EIEE42; FHM; HPCA; MHP; MHP1; SCA6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG230748 representing NM_001174080 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCCGCTTCGGAGACGAGATGCCGGCCGCTACGGGGGAGGAGGCTCCGGGGCAGCCCGGGGTGG
TCGTGGGCAGCGGAGGCGGGGCGAGGAGCCGGGGCAGCCGGCAGGGCGGGCAGCCCGGGCGCAAAGGAT
GTACAAGCAGTCAATGGCGCAGAGAGCGCGGACCATGGCACTCTACAACCCATCCCCGTCGACAGAAC
TGCCCTCACGGTTAACCGTCTCTTCTTCCAGCGAAGACAACGTGGTGAGAAAATACGCCAAAAGA
TCACCGAATGGCCTCCCTTTGAATATATGATTTTAGCCACCATCATAGCGAATTGCATCGTCTCGCACT
GGAGCAGCATCTGCCTGATGATGACAAGACCCCGATGTCTGAACGGCTGGATGACACAGAACCATACTTC
ATTGGAATTTTTGTTTCGAGGCTGGAATAAAATCATTGCCCTTGGGTTTGCCTTCCACAAAGGCTCCT
ACTTGAGGAATGGCTGGAATGTCATGGACTTTGTGGTGGTGTAAACGGGCATCTTGGCGACAGTTGGGAC
GGAGTTTGACCTACGGACGCTGAGGGCAGTTTCGAGTGTGCGGCCGCTCAAGCTGGTGTCTGGAATCCCA
AGTTTACAAGTCGTCCTGAAGTCGATCATGAAGGCGATGATCCCTTGTGCAGATCGGCCCTCCTCTAT
TTTTTGAATCCTTATTTTTGAATCATAGGGTTAGAATTTATATGGGAAAATTCATACCACCTGCTT
TGAAGAGGGGACAGATGACATTCAGGGTGAATCTCCGGCTCCATGTGGGACAGAAGAGCCCGCCGACCC
TGCCCAATGGGACCAAATGTGACGCCCTACTGGGAGGGCCCAACAACGGGATCACTCAGTTCGACAACA
TCCTGTTTGCAGTGTGACTGTTTTCCAGTGCATAACCATGGAAGGGTGGACTGATCTCCTTACAATAG
CAACGATGCCTCAGGGAACACTTGAACCTGTTGTACTTCATCCCCCTCATCATCATCGGCTCCTTTTTT
ATGCTGAACCTTGTGCTGGTGTGCTGTGAGGGAGTTTGCCAAAGAAAGGGAACGGGTGGAGAACCGGC
GGGCTTTTCTGAAGCTGAGGCGGCAACAACAGATTGAACGTGAGCTCAATGGGTACATGGAGTGGATCTC
AAAAGCAGAAGAGGTGATCCTCGCCGAGGATGAAACTGACGGGGAGCAGAGGCATCCCTTGTGAGGCT
CTGCGGAGAACCACCATAAAGAAAAGCAAGACAGATTTGCTCAACCCGAAAGAGGCTGAGGATCAGCTGG
CTGATATAGCCTCTGTGGTTCTCCCTCGCCGAGCCAGCATTAAAAGTCCAAGCTGGAGAACTCGAC
CTTTTTTCAAAAAGGAGAGGAGGATGCGTTTCTACATCCGCCGATGGTCAAAACTCAGGCCCTCTAC



[View online »](#)

TGGACTGTACTCAGTTTGGTAGCTCTCAACACGCTGTGTGTTGCTATTGTCACTACAACCAGCCCAGT
 GGCTCTCCGACTTCTTTACTATGCAGAATTCATTTTCTTAGGACTCTTATGTCCGAAATGTTTATAAA
 AATGTACGGGCTTGGGACGCGGCCTTACTTCCACTCTTCTTCAACTGCTTTGACTGTGGGGTTATCATT
 GGGAGCATCTTCGAGGTCTCTGGGCTGTCAAAAACCTGGCACATCCTTTGGAATCAGCGTGTACGAG
 CCCTCAGGTTATTGCGTATTTTCAAAGTCACAAAGTACTGGGCATCTCTCAGAAACCTGGTCGTCTCT
 CCTCAACTCCATGAAGTCCATCATCAGCCTGTTGTTTCTCTTTCTGTTTCTGTTTCTGTTTCTGTTT
 TTGGAAATGCAACTCTTCGGCGGCCAGTTAATTTTCGATGAAGGGACTCTCCACCAACTTCGATACTT
 TTCCAGCAGCAATAATGACGGTGTTCAGATCCTGACGGGCGAAGACTGGAACGAGGTATGTACGACGG
 GATCAAGTCTCAGGGGGCGTGCAGGGCGCATGGTGTCTCCATCTATTTTATTGTACTGACGCTCTTT
 GGGAACTACACCCTCCTGAATGTGTTCTTGGCCATCGCTGTGGACAATCTGGCCAACGCCAGGAGCTCA
 CCAAGGACGAGCAAGAGGAAGAAGAAGCAGCGAACCCAGAACTTGCCTACAGAAAGCCAAGGAGGTGGC
 AGAAGTGAGTCTCTGTCCGCGGCAACATGTCTATAGCTGTGAAAGAGCAACAGAAGAATCAAAAGCCA
 GCCAAGTCCGTGTGGGAGCAGCGGACCAGTGAGATGCGAAAGCAGAACTTGTGGCCAGCCGGGAGGCC
 TGTATAACGAAATGGACCCGACGAGCGCTGGAAGGCTGCCTACACGCGCACCTGCGGCCAGACATGAA
 GACGCACTTGGACCGGCCCTGGTGGTGGACCCGAGGAGAACCAGCAACAACAACCAACAAGAGCCGG
 GCGGCCGAGCCACCGTGGACCAGCGCCTCGGCCAGCAGCGCGCCGAGGACTTCCCTCAGGAAACAGGCC
 GCTACCACGATCGGGCCCGGACCCAGCGGCTCGGCGGGCTGGACGCACGGAGGCCCTGGGCGGGAAG
 CCAGGAGGCCGAGCTGAGCCGGGAGGGACCTACGGCCGCGAGTCGGACCACCACGCCCGGGAGGGCAGC
 CTGGAGCAACCCGGTCTGGGAGGGCAGGGCCGAGCGAGGCAAGGCCGGGGACCCACCGGAGGCACG
 TGCACCGGCAGGGGGCAGCAGGGAGAGCCGACGCGGTCCCCGCGCACGGGCGCGGACGGGGAGCATCG
 ACGTCAATCGCGCACCCGAGGCCCGGGGAGGAGGTCGGGAGGCAAGCGGAGCGGAGGGCGCGGCAC
 CGCGAGGGCAGCCGCGCCGGCCGGGGCGGCGAGGGCGAGGGCCCGACGGGGCGAGCGCAGGA
 GAAGGCACCGCATGGCCTCCAGCCACGTACGAGGGGGACGCGCGGAGGAGGACAAGGACGGGCA
 TCGGAGGAGGAAAGAGAACCAGGGCTCCGGGGTCCCTGTGTCCGGCCCAACCTGTCAACACCCGGCCA
 ATCCAGCAGGACCTGGGCGCCAAGACCCACCCCTGGCAGAGGATATTGACAACATGAAGAACAACAAGC
 TGGCCACCAGCGAGTCGGCCGCTCCCCACGGCAGCCTTGGCCACGCCGCGCTGCCCCAGAGCCAGCCAA
 GATGGGAAACAGCACCGACCCCGGCCCATGCTGGCCATCCCTGCCATGGCCACCAACCCCCAGAACGCC
 GCCAGCCCGGGACGCCCAACAACCCGGGAACCCATCCAATCCCGCCCCCAAGACCCCGAGAATA
 GCCTTATCGTACCAACCCAGCGGCACCCAGACCAATTCAGCTAAGACTGCCAGGAAACCCGACCACAC
 CACAGTGGACATCCCCCAGCCTGCCACCCCTCAACCACACCGTCTACAAGTGAACAAAAACGCC
 AACCCAGACCCACTGCCAAAAAAGAGGAAGAGAAGAAGGAGGAGGAGGAAGACGACCGTGGGGAAGACG
 GCCTAAGCCAAATGCCTCCCTATAGCTCCATGTTTCATCCTGTCCAGACCAACCCCTTCCCGCCTGTG
 CCATTACATCCTGAACCTGCGCTACTTTGAGATGTGCATCCTCATGGTCATTGCCATGAGCAGCATCGCC
 CTGGCCGCGGAGGACCCTGTGCAGCCCAACGCACCTCGGAACAACGTGCTGCGATACTTTGACTACGTTT
 TTACAGGCGTCTTTACCTTTGAGATGGTGTCAAGATGATTGACCTGGGGCTCGTCTGCATCAGGGTGC
 CTACTTCCGTGACCTCTGGAATATTCTCGACTTCATAGTGGTCAAGTGGGGCCCTGGTAGCCTTTGCCTT
 ACTGGCAATAGCAAAGGAAAAGACATCAACACGATTAATCCCTCCGAGTCTCCGGGTGCTACGACCTC
 TTAACACCATCAAGCGGCTGCCAAAGCTCAAGGCTGTGTTGACTGTGTGGTGAACCTCACTAAAAACGT
 TTCAACATCCTCATCGTCTACATGCTATTTCATGTTTCATCTTCCCGTGGTGGCTGTGCAGCTCTCAAG
 GGGAAATCTTCCACTGCACTGACGAGTCCAAAGAGTTTGAGAAAAGATTGTGAGGCAAAATACCTCCTCT
 ACGAGAAGAATGAGGTGAAGGCGGAGACCGGGAGTGAAGAAGTATGAATCCATTACGACAATGTGCT
 GTGGGCTGTGACCTCTTACCCTGTCCACGGGAGAAGGCTGGCCACAGGTCCTCAAGCATTGCGGTG
 GACGCCACCTTTGAGAACCAGGGCCCCAGCCCCGGGTACCGCATGGAGATGTCCATTTTCTACGTCGTCT
 ACTTTGTGGTGTCCCTTCTTCTTTGTCAATATCTTTGTGGCCTTGATCATCATCACTTCCAGGAGCA
 AGGGGACAAGATGATGGAGGAATACAGCCTGGAGAAAAATGAGAGGGCCTGCATTGATTTGCCATCAGC
 GCCAAGCCGCTGACCCGACACATGCCGAGAACAAGCAGAGCTTCCAGTACCGCATGTGGCAGTTCTGTGG
 TGTCTCCGCTTTCGAGTACACGATCATGGCCATGATCGCCCTCAACACCATCGTGCTTATGATGAAGTT
 CTATGGGGCTTCTGTTGCTTATGAAAATGCCCTGCGGGTGTCAACATCGTCTTACCTCCCTCTCTCT
 CTGGAATGTGTGCTGAAAGTCATGGCTTTTGGATTCTGAATATTTCCGCGATGCCTGGAACATCTTCG
 ACTTTGTGACTGTTCTGGGCAGCATCACCGATATCCTCGTACTGAGTTTGGGAATCCGAATAAATTCAT
 CAACCTGAGCTTCTCCGCTTTCGAGCTGCCCGGCTCATCAAACTTCTCCGTGAGGGTTACACCATC
 CGCATTCTCTGACCTTTGTGACGTCCTTCAAGGCCCTGCCTTATGTCTGTCTGATCGCCATGC

TCTTCTTCATCTATGCCATCATTGGGATGCAGGTGTTTGGTAACATTGGCATCGACGTGGAGGACGAGGA
CAGTGATGAAGATGAGTTCCAAATCACTGAGCACAATAACTTCCGGACCTTCTCCAGGCCCTCATGCTT
CTCTTCCGGAGTGCCACCGGGGAAGCTTGGCACAACATCATGCTTTCCTGCCTCAGCGGGAAACCGTGTG
ATAAGAAGCTCTGGCATCCTGACTCGAGAGTGTGGCAATGAATTTGCTTATTTTTACTTTGTTTCCTTCAT
CTTCTCTGCTCGTTTCTGATGCTGAATCTCTTTGTCGCCGTATCATGGACAACCTTGGAGTACCTCACC
CGAGACTCCTCCATCCTGGGCCCCACCACCTGGATGAGTACGTGCGTGTCTGGGCCGAGTATGACCCCG
CAGCTTGGGGCCGCATGCCTTACCTGGACATGTATCAGATGCTGAGACACATGTCTCCGCCCTGGGTCT
GGGAAGAAGTGTCCGGCCAGAGTGGCTTACAAGCGGCTTCTGCGGATGGACCTGCCCGTCCGAGATGAC
AACACCGTCCACTTCAATTCCACCCTCATGGCTCTGATCCGCACAGCCCTGGACATCAAGATTGCCAAGG
GAGGAGCCGACAAACAGCAGATGGACGCTGAGCTGCGGAAGGAGATGATGGCGATTTGGCCAATCTGTC
CCAGAAGACGCTAGACCTGCTGGTCACACCTCACAAGTCCACGGACCTCACCGTGGGGAAGATCTACGCA
GCCATGATGATCATGGAGTACTACCGGCAGAGCAAGGCCAAGAAGCTGCAGGCCATGCGCGAGGAGCAGG
ACCGGACACCCCTCATGTTCCAGCGCATGGAGCCCCGTCCCAACGCAGGAAGGGGACCTGGCCAGAA
CGCCCTCCCTCCACCCAGCTGGACCCAGGAGGCCCTGATGGCTCACGAAAGCGGCCCTCAAGGAGAGC
CCGTCTGGGTGACCCAGCGTGCCAGGAGATGTTCCAGAAGACGGGCACATGGAGTCCGGAACAAGGCC
CCCTACCGACATGCCAACAGCCAGCCTAACTCTCAGTCCGTGGAGATGCGAGAGATGGCAGAGATGG
CTACTCCGACAGCGAGCACTACCTCCCATGGAAGGCCAGGGCCGGGCTGCCTCCATGCCCGCCTCCCT
GCAGAGAACCAGAGGAGAAGGGCCGGCCACGTGGGAATAACCTCAGTACCATCTCAGACACCAGCCCA
TGAAGCGTTCAGCCTCCGTGCTGGGCCCAAGGCCGACGCTGGACGATTACTCGTGGAGCGGGTCCC
GCCCAGGAGAACCAGCGGCACCACCAGCGGCCCGCGACCGCAGCCACCGCGCTCTGAGCGCTCCCTG
GGCCGCTACACCGATGTGGACACAGGCTTGGGGACAGACCTGAGCATGACCACCAATCCGGGGACCTGC
CGTCGAAGGAGCGGGACCAGGAGCGGGCCGGCCAAGGATCGGAAGCATCGACAGCACCACCACCA
CCACCACCACCACCATCCCCGCCCCCGACAAGGACCGCTATGCCAGGAACGGCCGGACCACGGCCGG
GCACGGGCTCGGGACCAGCGCTGGTCCCGCTCGCCAGCGAGGGCCGAGAGCACATGGCGCACCGGCAG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG230748 representing NM_001174080
 Red=Cloning site Green=Tags(s)

MARFGDEMPARYGGGGSGAAAGVVVSGGGGRGAGGSRQGGQPGAQRMYKQSMARARTMALYNPIVVRQN
 CLTVNRSFLFSEDNVVRKYAKKITEWPPFEYMLATIIANCIVLALAEQHLRDDDKTPMSERLDDTEPYF
 IGIFCFEAGIKIIALGF AFHKGSYLNRNGWNVMDFFVVLTGILATVGTDFDLRTLRAVRVLRPLKLVSGIP
 SLQVVLSIMKAMIPLLQIGLLFFAILIFAIIGLEFYMGKFHTTCFEEGDDIQQGESPAPCGTEEPART
 CPNGTKCQPYWEGPNNGITQFDNILFAVLTVFQCITMEGWTDLLYNSNDASGNTWNWLYFIPLIIIGSFF
 MLNLVLGVLGSEFAKERERVENRRRAFLKLRQQQIERELNGYMEWISKAEEVILAEDETGEQRHFPDGA
 LRRTTIKKSKTDLLNPEEAEDQLADIASVGSPPARASIKSAKLENSTFFHKKERRRMFYIRRMVKTQAFY
 WTVLSLVALNTLCVAIVHYNQPEWLSDFLYAEFIFLGLFMSEMIKMYGLGTRPYFHSSNCFDCGVII
 GSIFEVIWAVIKPGTSFGISVLRALRLLRIFKVKYWASLRNLVSVLLNSMKSIISLLFLLFIVVFAL
 LGMQLFGGQFNDFGTPPTNDFTPAAIMTVFQILTGEDWNEVMYDGIKSQGGVQGGMVFSIYFIVLTLF
 GNYTLLNVFLAIAVDNLANAQELTKDEQEEEEANQKLLQKAKEVAEVSPLSAANMSIAVKEQQKNQKP
 AKSVWEQRTSEMRQNLLASREALYNEMDPDERWKAAYTRHLRPMKTHLDRPLVVDPQENRNNNTNKS
 AAAPTVDQRLGQQAEDFLRKQARYHDRARDPSGSAGLDARRPWAGSQEAEELSGEPYGRESDDHAREGS
 LEQPGFWEGEAERKAGDPHRRHVHRQGGSSRSRSGSPRTGADGEHRRHRAHRRPGEEGPEDKAERRARH
 REGSRPARGGEGEGEPDGGERRRRHRHGAPATYEGDARREDKERRRRRKENQSSGVPVSGPNLSTTRP
 IQQDLGRQDPPLAEDIDNMKNNKLATAESAAPHGSLGHAGLPQSPAKMGNSTDPGPMLAIPAMATNPQNA
 ASRRTPNPNPNSNPGPKTPENSLIVTNPSTQNSAKTARKPDHTTVDIPPACPPPLNHTVVQVNKNA
 NPDPLPKKEEKEEEDDRGEDGPKMPPYSSMFIILSTTNPLRRLCHYLNLRYFEMCILMVIAMSSIA
 LAAEDVPQPNAPRNNVLRVYFDYVFTGVFTFEMVIKMLDLGLVLHQGAYFRDLWNILDFIVVSGALVAF
 TGMKGGKDIINTIKSLRVLRLPLKTIKRLPKLKAFFDCVNSLKNVFNILIVYMLFMFIFAVVAVQLFK
 GKFFHCTDESKEFEKDCRGKYLLEYKNEVKARDREWKKYEFHYDNVLWALLTLFTVSTGEGWPVLKHSV
 DATFENQGPSGYRMEMSIFYVYVVFVFFVNIIFVALIITTFQEQQDKMMEYSLEKNERACIDFAIS
 AKPLTRHMPQNKQSFQYRMWQFVVSPPFEYTIMAMIALNTIVLMMKFYGASVAYENALRVFNIVFTSLFS
 LECVLKVMAGFILNYFRDAWNIFDFVTVLGSITDILVTEFGNPNNFINLSFLRFLFRAARL IKLLRQGYTI
 RILLWTFVQSFKALPYVCLLIAMLFFIYAIIGMQVFGNIGIDVEDEDSDEDEFQITEHNNFRTFFQALML
 LFRSATGEAWHNIMLSCLSGKPCDKNSGILTRECGNEFAYFYFVSFIFLCSFLMLNLFVAVIMDNFEYLT
 RDSSILGPHHLDEYVRVWAEYDPAAWGRMPYLDMYQMLRHMSPLGLGKPCPARVAYKRLLRMDLPVADD
 NTVHFNSTLMALIRTALDIKIAKGGADKQQMDAELRKEMMAIWPNSLQKTLDLLVTPHKSTDLTVGKIYA
 AMMIMEYYRQSKAKKLQAMREEQDRTPLMFQRMEPPSPTQEGGQNALPSTQLDPPGALMAHESGLKES
 PSWVTQRAQEMFQKTGTWSPEQGPPTDMPNSQPNSSQSVEMREMGRDGYSDSEHYLPMEGQGRAASMPRLP
 AENQRRRGRPRGNLSTISDTPMKRSASVLGPKARRLDDYSLERVPPEENQRHHQRRRDRSHRASERSL
 GRYTDVDTGLGTDLSMTTQSGDLP SKERDQERGRPKDRKRRQHSHHHHHHHHHPPPPDKDRYAQERPDHGR
 ARARDQRWSRSPSEGREHMAHRQ

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

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_001174080.2
RefSeq Size:	8632 bp
RefSeq ORF:	6792 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
Gene Summary:	<p>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]</p>