OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

Product datasheet for RG219751

CACNA1G (NM_198386) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA1G (NM_198386) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CACNA1G
Synonyms:	Ca(V)T.1; Cav3.1; NBR13; SCA42; SCA42ND
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>RG219751 representing NM_198386
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGACGAGGAGGAGGATGGAGCGGGCGCCGAGGAGTCGGGACAGCCCCGGAGCTTCATGCGGCTCAACG
ACCTGTCGGGGGCCGGGGGCCGGCCGGGGCCGGGGTCAGCAGAAAAGGACCCGGGCAGCGCGGACTCCGA
GGCGGAGGGGCTGCCGTACCCGGCGCTGGCCCCGGTGGTTTTCTTCTACTTGAGCCAGGACAGCCGCCCG
CGGAGCTGGTGTCTCCGCACGGTCTGTAACCCCTGGTTTGAGCGCATCAGCATGTTGGTCATCCTTCTCA
ACTGCGTGACCCTGGGCATGTTCCGGCCATGCGAGGACATCGCCTGTGACTCCCAGCGCTGCCGGATCCT
GCAGGCCTTTGATGACTTCATCTTTGCCTTCTTTGCCGTGGAGATGGTGGTGAAGATGGTGGCCTTGGGC
ATCTTTGGGAAAAAGTGTTACCTGGGAGACACTTGGAACCGGCTTGACTTTTTCATCGTCATCGCAGGGA
TGCTGGAGTACTCGCTGGACCTGCAGAACGTCAGCTTCTCAGCTGTCAGGACAGTCCGTGTGCTGCGACC
GCTCAGGGCCATTAACCGGGTGCCCAGCATGCGCATCCTTGTCACGTTGCTGCTGGATACGCTGCCCATG
CTGGGCAACGTCCTGCTGCTCTGCTTCTTCGTCTTCTTCATCTTCGGCATCGTCGGCGTCCAGCTGTGGG
CAGGGCTGCTTCGGAACCGATGCTTCCTACCTGAGAATTTCAGCCTCCCCCTGAGCGTGGACCTGGAGCG
CTATTACCAGACAGAGAACGAGGATGAGAGCCCCTTCATCTGCTCCCAGCCACGCGAGAACGGCATGCGG
TCCTGCAGAAGCGTGCCCACGCTGCGCGGGGACGGGGGCGGTGGCCCACCTTGCGGTCTGGACTATGAGG
CCTACAACAGCTCCAGCAACACCACCTGTGTCAACTGGAACCAGTACTACACCAACTGCTCAGCGGGGGA
GCACAACCCCTTCAAGGGCGCCATCAACTTTGACAACATTGGCTATGCCTGGATCGCCATCTTCCAGGTC
ATCACGCTGGAGGGCTGGGTCGACATCATGTACTTTGTGATGGATGCTCATTCCTTCTACAATTTCATCT
ACTTCATCCTCCTCATCATCGTGGGCTCCTTCTTCATGATCAACCTGTGCCTGGTGGTGATTGCCACGCA
GTTCTCAGAGACCAAGCAGCGGGAAAGCCAGCTGATGCGGGAGCAGCGTGTGCGGTTCCTGTCCAACGCC
AGCACCCTGGCTAGCTTCTCTGAGCCCGGCAGCTGCTATGAGGAGCTGCTCAAGTACCTGGTGTACATCC
TTCGTAAGGCAGCCCGCAGGCTGGCTCAGGTCTCTCGGGCAGCAGGTGTGCGGGTTGGGCTGCTCAGCAG
CCCAGCACCCCTCGGGGGCCAGGAGACCCAGCCCAGCAGCAGCTGCTCTCGCTCCCACCGCCGCCTATCC

View online »

GTCCACCACCTGGTGCACCACCACCACCACCATCACCACCACTACCACCTGGGCAATGGGACGCTCAGGG
CCCCCCGGGCCAGCCCGGAGATCCAGGACAGGGATGCCAATGGGTCCCGCCGGCTCATGCTGCCACCACC
CTCGACGCCTGCCCTCTCCGGGGCCCCCCCCTGGTGGCGCAGAGTCTGTGCACAGCTTCTACCATGCCGAC
TGCCACTTAGAGCCAGTCCGCTGCCAGGCGCCCCCTCCCAGGTCCCCATCTGAGGCATCCGGCAGGACTG
TGGGCAGCGGGAAGGTGTATCCCACCGTGCACACCAGCCCTCCACCGGAGACGCTGAAGGAGAAGGCACT
AGTAGAGGTGGCTGCCAGCTCTGGGCCCCCAACCCTCACCAGCCTCAACATCCCACCCGGGCCCTACAGC
TCCATGCACAAGCTGCTGGAGACACAGAGTACAGGTGCCTGCCAAAGCTCTTGCAAGATCTCCAGCCCTT
GCTTGAAAGCAGACAGTGGAGCCTGTGGTCCAGACAGCTGCCCCTACTGTGCCCGGGCCGGGGCAGGGGA
GGTGGAGCTCGCCGACCGTGAAATGCCTGACTCAGACAGCGAGGCAGTTTATGAGTTCACACAGGATGCC
CAGCACAGCGACCTCCGGGACCCCCACAGCCGGCGGCAACGGAGCCTGGGCCCAGATGCAGAGCCCAGCT
CTGTGCTGGCCTTCTGGAGGCTAATCTGTGACACCTTCCGAAAGATTGTGGACAGCAAGTACTTTGGCCG
GGGAATCATGATCGCCATCCTGGTCAACACACTCAGCATGGGCATCGAATACCACGAGCAGCCCGAGGAG
CTTACCAACGCCCTAGAAATCAGCAACATCGTCTTCACCAGCCTCTTTGCCCTGGAGATGCTGCTGAAGC
TGCTTGTGTATGGTCCCTTTGGCTACATCAAGAATCCCTACAACATCTTCGATGGTGTCATTGTGGTCAT
CAGCGTGTGGGAGATCGTGGGCCAGCAGGGGGGCGGCCTGTCGGTGCTGCGGACCTTCCGCCTGATGCGT
GTGCTGAAGCTGGTGCGCTTCCTGCCGGCGCTGCAGCGGCAGCTGGTGGTGCTCATGAAGACCATGGACA
ACGTGGCCACCTTCTGCATGCTGCTTATGCTCTTCATCTTCATCTTCAGCATCCTGGGCATGCATCTCTT
CGGCTGCAAGTTTGCCTCTGAGCGGGATGGGGACACCCTGCCAGACCGGAAGAATTTTGACTCCTTGCTC
TGGGCCATCGTCACTGTCTTTCAGATCCTGACCCAGGAGGACTGGAACAAAGTCCTCTACAATGGTATGG
CCTCCACGTCGTCCTGGGCGGCCCTTTATTTCATTGCCCTCATGACCTTCGGCAACTACGTGCTCTTCAA
TTTGCTGGTCGCCATTCTGGTGGAGGGCTTCCAGGCGGAGGAAATCAGCAAACGGGAAGATGCGAGTGGA
CAGTTAAGCTGTATTCAGCTGCCTGTCGACTCCCAGGGGGGAGATGCCAACAAGTCCGAATCAGAGCCCG
ATTTCTTCTCACCCAGCCTGGATGGTGATGGGGACAGGAAGAAGTGCTTGGCCTTGGTGTCCCTGGGAGA
GCACCCGGAGCTGCGGAAGAGCCTGCTGCCGCCTCTCATCATCCACACGGCCGCCACACCCATGTCGCTG
CCCAAGAGCACCAGCACGGGCCTGGGCGAGGCGCTGGGCCCTGCGTCGCGCCGCACCAGCAGCAGCGGGT
CGGCAGAGCCTGGGGCGGCCCACGAGATGAAGTCACCGCCCAGCGCCCGCAGCTCTCCGCACAGCCCCTG
GAGCGCTGCAAGCAGCTGGACCAGCAGGCGCTCCAGCCGGAACAGCCTCGGCCGTGCACCCAGCCTGAAG
CGGAGAAGCCCAAGTGGAGAGCGGCGGTCCCTGTTGTCGGGAGAAGGCCAGGAGAGCCAGGATGAAGAGG
AGAGCTCAGAAGAGGAGCGGGCCAGCCCTGCGGGCAGTGACCATCGCCACAGGGGGTCCCTGGAGCGGGA
GGCCAAGAGTTCCTTTGACCTGCCAGACACACTGCAGGTGCCAGGGCTGCATCGCACTGCCAGTGGCCGA
GGGTCTGCTTCTGAGCACCAGGACTGCAATGGCAAGTCGGCTTCAGGGCGCCTGGCCCGGGCCCTGCGGC
CTGATGACCCCCCACTGGATGGGGATGACGCCGATGACGAGGGCAACCTGAGCAAAGGGGAACGGGTCCG
CGCGTGGATCCGAGCCCGACTCCCTGCCTGCTGCCTCGAGCGAGACTCCTGGTCAGCCTACATCTTCCCT
CCTCAGTCCAGGTTCCGCCTCCTGTGTCACCGGATCATCACCCACAAGATGTTCGACCACGTGGTCCTTG
TCATCATCTTCCTTAACTGCATCACCATCGCCATGGAGCGCCCCAAAATTGACCCCCACAGCGCTGAACG
CATCTTCCTGACCCTCTCCAATTACATCTTCACCGCAGTCTTTCTGGCTGAAATGACAGTGAAGGTGGTG
GCACTGGGCTGGTGCTTCGGGGAGCAGGCGTACCTGCGGAGCAGTTGGAACGTGCTGGACGGGCTGTTGG
TGCTCATCTCCGTCATCGACATTCTGGTGTCCATGGTCTCTGACAGCGGCACCAAGATCCTGGGCATGCT
GAGGGTGCTGCGGCTGCTGCGGACCCTGCGCCCGCTCAGGGTGATCAGCCGGGCGCAGGGGCTGAAGCTG
GTGGTGGAGACGCTGATGTCCTCACTGAAACCCATCGGCAACATTGTAGTCATCTGCTGTGCCTTCTTCA
TCATTTTCGGCATCTTGGGGGTGCAGCTCTTCAAAGGGAAGTTTTTCGTGTGCCAGGGCGAGGATACCAG
GAACATCACCAATAAATCGGACTGTGCCGAGGCCAGTTACCGGTGGGTCCGGCACAAGTACAACTTTGAC
AACCTTGGCCAGGCCCTGATGTCCCTGTTCGTTTTGGCCTCCAAGGATGGTTGGGTGGACATCATGTACG
ATGGGCTGGATGCTGTGGGCGTGGACCAGCAGCCCATCATGAACCACAACCCCTGGATGCTGCTGTACTT
CATCTCGTTCCTGCTCATTGTGGCCTTCTTTGTCCTGAACATGTTTGTGGGTGTGGTGGTGGAGAACTTC
CACAAGTGTCGGCAGCACCAGGAGGAAGAGGAGGCCCGGCGGCGGGAGGAGAAGCGCCTACGAAGACTGG
AGAAAAAGAGAAGGAAAGCCCAGTGCAAACCTTACTACTCCGACTACTCCCGCTTCCGGCTCCTCGTCCA
CCACTTGTGCACCAGCCACTACCTGGACCTCTTCATCACAGGTGTCATCGGGCTGAACGTGGTCACCATG
GCCATGGAGCACTACCAGCAGCCCCAGATTCTGGATGAGGCTCTGAAGATCTGCAACTACATCTTCACTG
TCATCTTTGTCTTGGAGTCAGTTTTCAAACTTGTGGCCTTTGGTTTCCGTCGGTTCTTCCAGGACAGGTG
GAACCAGCTGGACCTGGCCATTGTGCTGCTGTCCATCATGGGCATCACGCTGGAGGAAATCGAGGTCAAC
GCCTCGCTGCCCATCAACCCCACCATCATCCGCATCATGAGGGTGCTGCGCATTGCCCGAGTGCTGAAGC

TGCTGAAGATGGCTGTGGGCATGCGGGCGCTGCTGGACACGGTGATGCAGGCCCTGCCCCAGGTGGGGAA
CCTGGGACTTCTCTTCATGTTGTTGTTTTTCATCTTTGCAGCTCTGGGCGTGGAGCTCTTTGGAGACCTG
GAGTGTGACGAGACACACCCCTGTGAGGGCCTGGGCCGTCATGCCACCTTTCGGAACTTTGGCATGGCCT
TCCTAACCCTCTTCCGAGTCTCCACAGGTGACAATTGGAATGGCATTATGAAGGACACCCTCCGGGACTG
TGACCAGGAGTCCACCTGCTACAACACGGTCATCTCGCCTATCTACTTTGTGTCCTTCGTGCTGACGGCC
CAGTTCGTGCTAGTCAACGTGGTGATCGCCGTGCTGATGAAGCACCTGGAGGAGAGCAACAAGGAGGCCA
AGGAGGAGGCCGAGCTAGAGGCTGAGCTGGAGCTGGAGATGAAGACCCTCAGCCCCCAGCCCCACTCGCC
ACTGGGCAGCCCCTTCCTCTGGCCTGGGGTCGAGGGCCCCGACAGCCCCGACAGCCCCAAGCCTGGGGCT
CTGCACCCAGCGGCCCACGCGAGATCAGCCTCCCACTTTTCCCTGGAGCACCCCACGATGCAGCCCCACC
CCACGGAGCTGCCAGGACCAGACTTACTGACTGTGCGGAAGTCTGGGGTCAGCCGAACGCACTCTCTGCC
CAATGACAGCTACATGTGTCGGCATGGGAGCACTGCCGAGGGGCCCCTGGGACACAGGGGCTGGGGGCTC
CCCAAAGCTCAGTCAGGCTCCGTCTTGTCCGTTCACTCCCAGCCAGCAGATACCAGCTACATCCTGCAGC
TTCCCAAAGATGCACCTCATCTGCTCCAGCCCCACAGCGCCCCAACCTGGGGCACCATCCCCAAACTGCC
CCCACCAGGACGCTCCCCTTTGGCTCAGAGGCCACTCAGGCGCCAGGCAGCAATAAGGACTGACTCCTTG
GACGTTCAGGGTCTGGGCAGCCGGGAAGACCTGCTGGCAGAGGTGAGTGGGCCCTCCCCGCCCCTGGCCC
GGGCCTACTCTTTCTGGGGCCAGTCAAGTACCCAGGCACAGCAGCACTCCCGCAGCCACAGCAAGATCTC
CAAGCACATGACCCCGCCAGCCCCTTGCCCAGGCCCAGAACCCAACTGGGGCAAGGGCCCTCCAGAGACC
AGAAGCAGCTTAGAGTTGGACACGGAGCTGAGCTGGATTTCAGGAGACCTCCTGCCCCCTGGCGGCCAGG
AGGAGCCCCCATCCCCACGGGACCTGAAGAAGTGCTACAGCGTGGAGGCCCAGAGCTGCCAGCGCCGGCC
TACGTCCTGGCTGGATGAGCAGAGGAGACACTCTATCGCCGTCAGCTGCCTGGACAGCGGCTCCCAACCC
CACCTGGGCACAGACCCCTCTAACCTTGGGGGCCAGCCTCTTGGGGGGCCTGGGAGCCGGCCCAAGAAAA
AACTCAGCCCGCCTAGTATCACCATAGACCCCCCCGAGAGCCAAGGTCCTCGGACCCCGCCCAGCCCTGG
TATCTGCCTCCGGAGGAGGGCTCCGTCCAGCGACTCCAAGGATCCCTTGGCCTCTGGCCCCCCTGACAGC
ATGGCTGCCTCGCCCTCCCCAAAGAAAGATGTGCTGAGTCTCTCCGGTTTATCCTCTGACCCAGCAGACC
TGGACCCC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

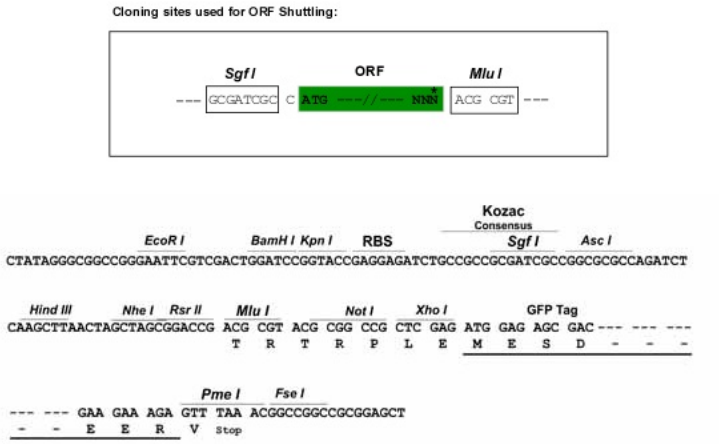
>RG219751 representing NM_198386
Red=Cloning site Green=Tags(s)

MDEEEDGAGAEESGQPRSFMRLNDLSGAGGRPGPGSAEKDPGSADSEAEGLPYPALAPVVFFYLSQDSRP
RSWCLRTVCNPWFERISMLVILLNCVTLGMFRPCEDIACDSQRCRILQAFDDFIFAFFAVEMVVKMVALG
IFGKKCYLGDTWNRLDFFIVIAGMLEYSLDLQNVSFSAVRTVRVLRPLRAINRVPSMRILVTLLLDTLPM
LGNVLLLCFFVFFIFGIVGVQLWAGLLRNRCFLPENFSLPLSVDLERYYQTENEDESPFICSQPRENGMR
SCRSVPTLRGDGGGGPPCGLDYEAYNSSSNTTCVNWNQYYTNCSAGEHNPFKGAINFDNIGYAWIAIFQV
ITLEGWVDIMYFVMDAHSFYNFIYFILLIIVGSFFMINLCLVVIATQFSETKQRESQLMREQRVRFLSNA
STLASFSEPGSCYEELLKYLVYILRKAARRLAQVSRAAGVRVGLLSSPAPLGGQETQPSSSCSRSHRRLS
VHHLVHHHHHHHHHYHLGNGTLRAPRASPEIQDRDANGSRRLMLPPPSTPALSGAPPGGAESVHSFYHAD
CHLEPVRCQAPPPRSPSEASGRTVGSGKVYPTVHTSPPPETLKEKALVEVAASSGPPTLTSLNIPPGPYS
SMHKLLETQSTGACQSSCKISSPCLKADSGACGPDSCPYCARAGAGEVELADREMPDSDSEAVYEFTQDA
QHSDLRDPHSRRQRSLGPDAEPSSVLAFWRLICDTFRKIVDSKYFGRGIMIAILVNTLSMGIEYHEQPEE
LTNALEISNIVFTSLFALEMLLKLLVYGPFGYIKNPYNIFDGVIVVISVWEIVGQQGGGLSVLRTFRLMR
VLKLVRFLPALQRQLVVLMKTMDNVATFCMLLMLFIFIFSILGMHLFGCKFASERDGDTLPDRKNFDSLL
WAIVTVFQILTQEDWNKVLYNGMASTSSWAALYFIALMTFGNYVLFNLLVAILVEGFQAEEISKREDASG
QLSCIQLPVDSQGGDANKSESEPDFFSPSLDGDGDRKKCLALVSLGEHPELRKSLLPPLIIHTAATPMSL
PKSTSTGLGEALGPASRRTSSSGSAEPGAAHEMKSPPSARSSPHSPWSAASSWTSRRSSRNSLGRAPSLK
RRSPSGERRSLLSGEGQESQDEEESSEEERASPAGSDHRHRGSLEREAKSSFDLPDTLQVPGLHRTASGR
GSASEHQDCNGKSASGRLARALRPDDPPLDGDDADDEGNLSKGERVRAWIRARLPACCLERDSWSAYIFP
PQSRFRLLCHRIITHKMFDHVVLVIIFLNCITIAMERPKIDPHSAERIFLTLSNYIFTAVFLAEMTVKVV
ALGWCFGEQAYLRSSWNVLDGLLVLISVIDILVSMVSDSGTKILGMLRVLRLLRTLRPLRVISRAQGLKL
VVETLMSSLKPIGNIVVICCAFFIIFGILGVQLFKGKFFVCQGEDTRNITNKSDCAEASYRWVRHKYNFD
NLGQALMSLFVLASKDGWVDIMYDGLDAVGVDQQPIMNHNPWMLLYFISFLLIVAFFVLNMFVGVVVENF
HKCRQHQEEEEARRREEKRLRRLEKKRRKAQCKPYYSDYSRFRLLVHHLCTSHYLDLFITGVIGLNVVTM
AMEHYQQPQILDEALKICNYIFTVIFVLESVFKLVAFGFRRFFQDRWNQLDLAIVLLSIMGITLEEIEVN
ASLPINPTIIRIMRVLRIARVLKLLKMAVGMRALLDTVMQALPQVGNLGLLFMLLFFIFAALGVELFGDL
ECDETHPCEGLGRHATFRNFGMAFLTLFRVSTGDNWNGIMKDTLRDCDQESTCYNTVISPIYFVSFVLTA
QFVLVNVVIAVLMKHLEESNKEAKEEAELEAELELEMKTLSPQPHSPLGSPFLWPGVEGPDSPDSPKPGA
LHPAAHARSASHFSLEHPTMQPHPTELPGPDLLTVRKSGVSRTHSLPNDSYMCRHGSTAEGPLGHRGWGL
PKAQSGSVLSVHSQPADTSYILQLPKDAPHLLQPHSAPTWGTIPKLPPPGRSPLAQRPLRRQAAIRTDSL
DVQGLGSREDLLAEVSGPSPPLARAYSFWGQSSTQAQQHSRSHSKISKHMTPPAPCPGPEPNWGKGPPET
RSSLELDTELSWISGDLLPPGGQEEPPSPRDLKKCYSVEAQSCQRRPTSWLDEQRRHSIAVSCLDSGSQP
HLGTDPSNLGGQPLGGPGSRPKKKLSPPSITIDPPESQGPRTPPSPGICLRRRAPSSDSKDPLASGPPDS
MAASPSPKKDVLSLSGLSSDPADLDP

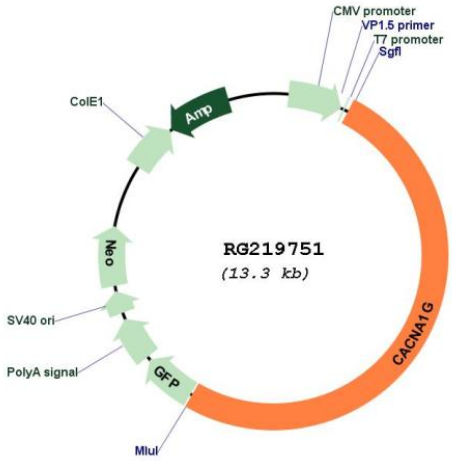
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_198386

ORF Size: 6798 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_198386.3
RefSeq Size:	7931 bp
RefSeq ORF:	6801 bp
Locus ID:	8913
UniProt ID:	O43497
Cytogenetics:	17q21.33
Protein Families:	Druggable Genome, Ion Channels: Calcium, Transmembrane
Protein Pathways:	Calcium signaling pathway, MAPK signaling pathway, Type II diabetes mellitus
Gene Summary:	Voltage-sensitive 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, gene expression, cell motility, cell division, and cell death. This gene encodes a T-type, low-voltage activated calcium channel. The T-type channels generate currents that are both transient, owing to fast inactivation, and tiny, owing to small conductance. T-type channels are thought to be involved in pacemaker activity, low-threshold calcium spikes, neuronal oscillations and resonance, and rebound burst firing. Many alternatively spliced transcript variants encoding different isoforms have been described for this gene. [provided by RefSeq, Sep 2011]