

## Product datasheet for **RG235380**

### CACNA1G (NM\_001256328) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** CACNA1G (NM\_001256328) 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:** >RG235380 representing NM\_001256328  
**Red=Cloning site Blue=ORF Green=Tags(s)**

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGACGAGGAGGAGGATGGAGCGGGCGCCGAGGAGTCGGGACAGCCCCGGAGCTTCATGCGGCTCAACG  
ACCTGTGCGGGGCGGGGCGGGCCGGGCGGGGTCAGCAGAAAAGGACCCGGGCGCGGACTCCGA  
GGCGGAGGGGCTGCCGTACCCGGCGCTGGCCCCGGTGGTTTTCTCTACTTGAGCCAGGACAGCCGCCG  
CGGAGCTGGTGTCTCCGACGGTCTGTAACCCCTGGTTTGAGCGCATCAGCATGTTGGTCATCCTTCTCA  
ACTGCGTGACCCCTGGGCATGTTCCGGCCATGCGAGGACATCGCCTGTGACTCCCAGCGCTGCCGGATCCT  
GCAGGCCTTTGATGACTTCATCTTTGCCTTCTTTGCCGTGGAGATGGTGGTGAAGATGGTGGCCTTGGGC  
ATCTTTGGGAAAAAGTGTACCTGGGAGACACTTGAACCCGGCTTGAATTTTTCATCGTCATCGCAGGGA  
TGCTGGAGTACTCGTGGACCTGCAAGACGTCAGCTTCTCAGCTGTCAGGACAGTCCGTGTGCTGCGACC  
GCTCAGGGCCATTAACCGGGTGCCAGCATGCGCATCCTGTGACGTTGCTGGATACGCTGCCCATG  
CTGGGCAACGTCCTGCTGCTCTGCTTCTTCGTCTTCTTCATCTTCGGCATCGTCGGCGTCCAGCTGTGGG  
CAGGGCTGCTTCGGAACCGATGCTTCTACCTGAGAATTCAGCCTCCCCCTGAGCGTGGACCTGGAGCG  
CTATTACCAGACAGAGAACGAGGATGAGAGCCCCCTTCACTGCTCCAGCCACGCGAGAACGGCATGCGG  
TCCTGCAAGCGTGCCACGCTGCGCGGGGACGGGGCGGTGGCCACCTTGGCTGACTATGAGG  
CCTACAACAGCTCCAGCAACACCACCTGTGTCACTGGAACCACTACTACCAACTGCTCAGCGGGGA  
GCACAACCCCTTCAAGGGCGCCATCAACTTTGACAACATTGGCTATGCCTGGATCGCCATCTTCCAGGTC  
ATCAGCTGGAGGGCTGGGTCGACATCATGTAATTTGTGATGGATGCTCATTCTTCTACAATTTTCATCT  
ACTTCATCCTCCTCATCATCGTGGGCTCCTTCTCATGATCAACCTGTGCTGGTGGTATTGCCACGCA  
GTTCTCAGAGACCAAGCAGCGGAAAGCCAGCTGATGCGGGAGCAGCGTGTGCGGTTCTGTCCAACGCC  
AGCACCCTGGCTAGCTTCTGTAGCCCGGACGCTGCTATGAGGAGCTGCTCAAGTACCTGGTGTACATCC  
TTCGTAAGGCAGCCCGCAGGCTGGCTCAGGTCTCTCGGGCAGCAGGTGTGCGGGTGGGCTGCTCAGCAG  
CCCAGCACCCCTCGGGGCGCAGGAGACCAGCCAGCAGCAGCTGCTCTGCTCCACCGCCGCTATCC



[View online >](#)

GTCCACCACCTGGTGCACCACCACCACCACCATCACCACCACTACCACCTGGGCAATGGGACGCTCAGGG  
 CCCCCGGGCCAGCCCGGAGATCCAGGACAGGGATGCCAATGGGTCCCAGCGGCTCATGCTGCCACCACC  
 CTCGACGCCTGCCCTCTCCGGGGCCCCCTGGTGGCGCAGAGTCTGTGCACAGCTTCTACCATGCCGAC  
 TGCCACTTAGAGCCAGTCCGCTGCCAGGCGCCCCCTCCAGGTCCCCATCTGAGGCATCCGGCAGGACTG  
 TGGGCAGCGGGAAGGTGTATCCCACCGTGACACCAGCCCTCCACCGAGACGCTGAAGGAGAAGGCACT  
 AGTAGAGGTGGCTGCCAGCTCTGGGCCCAACCCTCACCAGCTCAACATCCCACCCGGGCCCTACAGC  
 TCCATGCACAAGCTGCTGGAGACACAGAGTACAGGTGCCTGCCAAAGCTTTGCAAGACTCCAGCCCTT  
 GCTTGAAAGCAGACAGTGGAGCCTGTGGTCCAGACAGCTGCCCTACTGTGCCCGGGCCGGGCAGGGGA  
 GGTGGAGCTCGCCGACCTGAAATGCCTGACTCAGACAGCGAGGCAAGTTATGAGTTCACACAGGATGCC  
 CAGCACAGCGACCTCCGGGACCCCCACAGCCGGCGGAACGGAGCCTGGGCCAGATGCAGAGCCAGCT  
 CTGTGCTGGCCTTCTGGAGGTAATCTGTGACACCTTCCGAAAGATTGTGGACAGCAAGTACTTTGGCCG  
 GGGAAATCATGATCGCCATCCTGGTCAACACACTCAGCATGGGCATCGAATACCACGAGCAGCCCGAGGAG  
 CTTACCAACGCCCTAGAAATCAGCAACATCGTCTTACCAGCCTCTTGGCCTGGAGATGCTGCTGAAGC  
 TGCTTGTGTATGGTCCCTTTGGTACATCAAGAATCCCTACAACATCTTCGATGGTGTATTGTGGTGT  
 CAGCGTGTGGGAGATCGTGGGCCAGCAGGGGGCGGCCTGTCCGTGCTGCGGACCTTCCGCTGATGCGT  
 GTGCTGAAGCTGGTGCCTTCTGCCGGCGCTGCAGCGGAGCTGGTGGTGTCTGAAGACCATGGACA  
 ACGTGGCCACCTTCTGCATGCTGCTTATGCTCTTCATCTTCATCTTACAGCATCCTGGGCATGCATCTCT  
 CGGCTGCAAGTTTGCCTCTGAGCGGGATGGGGACACCCTGCCAGACCGGAAGATTTTGACTCCTTGCTC  
 TGGGCCATCGTCACTGTCTTTCAGATCTGACCCAGGAGGACTGGAACAAAGTCTCTACAATGGTATGG  
 CCTCCAGTCTGCTTGGCGGCCCTTATTTTATTGCTTCCATGACCTTCGGCAACTACGTGCTCTTCAA  
 TTTGCTGGTCCGCTTCTGGTGGAGGGCTTCCAGCGGAGGAAATCAGCAACCGGAAGATGCGAGTGGGA  
 CAGTTAAGCTGTATTAGCTGCCTGTGACTCCCAGGGGGGAGATGCCAACAAAGTCCGAATCAGAGCCCG  
 ATTTCTTCTCACCAGCCTGGATGGTGTATGGGGACAGGAAGAAGTCTTGGCCTTGGTGTCCCTGGGAGA  
 GCACCCGGAGCTGCGGAAGAGCCTGTGCGCCTCTCATCATCCACAGCGCCGCCACCCATGTGCGCTG  
 CCCAAGAGCACCAGCAGGGCCTGGGCGAGGCGCTGGGCCCTGCGTCCGCGCCACCAGCAGCAGCGGGT  
 CGGCAGAGCCTGGGGCGGCCACGAGATGAAGTACCAGCCAGCGCCCGCAGCTCTCCGACAGCCCTG  
 GAGCGTGCAGCAGCTGGACCAGCAGGCGCTCCAGCCGGAACAGCCTCGGCCGTGACCCAGCCTGAAG  
 CGGAGAAGCCCAAGTGGAGAGCGGCGGTCCCTGTTGTGCGGAGAAGGCCAGGAGAGCCAGGATGAAGAGG  
 AGAGCTCAGAAGAGGAGCGGGCCAGCCCTGCGGGCAGTGACCATCGCCACAGGGGTCCCTGGAGCGGGA  
 GGCAAGAGTTCCCTTGGCTGCCAGACACTGCAGGTGCCAGGGCTGCATCGACTGCCAGTGGCCGA  
 GGGTCTGCTTCTGAGCACCAGGACTGCAATGGCAAGTCCGCTTCCAGGGCGCTGGCCGGGCCCTGCGGC  
 CTGATGACCCCCACTGGATGGGGATGACGCCGATGACGAGGGCAACCTGAGCAAAGGGGAACGGGTCCG  
 CGCGTGGATCCGAGCCCGACTCCCTGCCTGCTGCCTCGAGCGAGACTCCTGGTACGCTACATCTTCCCT  
 CCTCAGTCCAGGTTCCGCTCCTGTGTCACCGGATCATCACCCACAAGATGTTCCGACCAGTGGTCCCTG  
 TCATCATCTTCTTAAGTGCATCACCATCGCCATGGAGCGCCCCAAAATTGACCCCCACAGCGCTGAACG  
 CATCTTCTGACCCTCTCCAATTACATCTTACCAGCAGTCTTCTGGCTGAAATGACAGTGAAGGTGGT  
 GCACTGGGCTGGTGTCTCGGGGAGCAGGCGTACCTGCGGAGCAGTTGGAACGTGCTGGACGGGCTGTTG  
 TGCTCATCTCCGTCATCGAATTCTGGTGTCCATGGTCTCTGACAGCGGCCAACAGATCCTGGGCATGCT  
 GAGGGTGTGCGGCTGCTGCGGACCTGCGCCCGCTCAGGGTATCAGCCGGGCGCAGGGGCTGAAGCTG  
 GTGGTGGAGACGCTGATGCTCCTCACTGAAACCCATCGGCAACATTGTAGTCATCTGCTGTGCTTCTTCA  
 TCAATTTTCGCGATCTTGGGGTGCAGCTCTTCAAAGGGAAGTTTTTCGTGTGCCAGGGCGAGGATACCAG  
 GAACATCACCAATAAATCGGACTGTGCCGAGGCCAGTTACCGGTGGGTCCGGCACAAGTACAACCTTGGAC  
 AACCTTGGCCAGGCCCTGATGTCCTGTTCGTTTTGGCTCCAAGGATGGTTGGTGGACATCATGTACG  
 ATGGGCTGGATGCTGTGGGCGTGGACCAGCAGCCATCATGAACCACAACCCCTGGATGCTGCTGACTT  
 CATCTCGTTCTGCTCATTGTGGCCTTCTTGTCTGAACATGTTTGTGGGTGTGGTGGTGGAGAATTC  
 CACAAGTGTCCGACACCAGGAGAAGAGGAGGCCCGGGCGGGAGGAGAAGCGCCTACGAAGACTGG  
 AGAAAAAGAGAAGGAAAGCCAGTGCAACCTTACTACTCGACTACTCCGCTTCCGGCTCCTCGTCCA  
 CCACTTGTGACCCAGCCACTACCTGGACCTTTCATCACAGGTGTATCGGGCTGAACGTGGTACCATG  
 GCCATGGAGCACTACCAGCAGCCCCAGATTCTGGATGAGGCTCTGAAGATCTGAACTACATCTTCACTG  
 TCATCTTGTCTTGGAGTCAGTTTTCAAACCTTGTGGCCTTTGGTTTCCGTCCGTTCTTCCAGGACAGGTG  
 GAACCAGCTGGACCTGGCCATTGTGCTGCTGTCCATCATGGGCATCACGCTGGAGGAAATCGAGGTCAAC  
 GCCTCGTGCCCATCAACCCACCATCATCCGATCATGAGGGTGTGCGCATTGCCGAGTGTGAAGC

TGCTGAAGATGGCTGTGGGCATGCGGGCGCTGCTGGACACGGTGGGGAACCTGGGACTTCTCTTCATGTT  
GTTGTTTTTCATCTTTCAGCTCTGGGCGTGGAGCTCTTTGGAGACCTGGAGTGTGACGAGACACACCCC  
TGTGAGGGCCTGGGCCGTATGCCACCTTTTCGAACTTTGGCATGGCCTTCTAACCCCTCTCCGAGTCT  
CCACAGGTGACAATTGGAATGGCATTATGAAGGACACCCCTCCGGGACTGTGACCAGGAGTCCACCTGCTA  
CAACACGGTCACTCGCCTATCTACTTTGTGTCCTTCGTGCTGACGGCCAGTTCGTGCTAGTCAACGTG  
GTGATCGCCGTGCTGATGAAGCACCTGGAGGAGCAACAAGGAGGCCAAGGAGGAGCCGAGCTAGAGG  
CTGAGCTGGAGCTGGAGATGAAGACCTCAGCCCCAGCCCCACTCGCCACTGGGCAGCCCCTTCCCTG  
GCCTGGGGTCGAGGGCCCCGACAGCCCCGACAGCCCCAAGCCTGGGGCTCTGCACCCAGCGGCCACGCG  
AGATCAGCCTCCCACTTTTCCCTGGAGCACCCACGATGCAGCCCCACCCACGGAGCTGCCAGGACCAG  
ACTTACTGACTGTGCGGAAGTCTGGGGTCAGCCGAACGCACTCTCTGCCCAATGACAGCTACATGTGTCG  
GCATGGGAGCACTGCCGAGGGGCCCTGGGACACAGGGGCTGGGGCTCCCCAAAGCTCAGTCAGGCTCC  
GTCTTGTCCGTTCACTCCAGCCAGCAGATACCAGCTACATCCTGCAGCTTCCCAAAGATGCACCTCATC  
TGCTCCAGCCCCACAGCGCCCCAACCTGGGGCACCATCCCCAACTGCCCCACCAGGACGCTCCCTTT  
GGCTCAGAGGCCACTCAGGCGCCAGGCAGCAATAAGGACTGACTCCTTGGACGTTTAGGGTCTGGGCAGC  
CGGAAGACCTGCTGGCAGAGGTGAGTGGGCCCTCCCCGCCCTGGCCCGGGCCTACTCTTCTGGGGCC  
AGTCAAGTACCCAGGCACAGCAGCACTCCCGCAGCCACAGCAAGATCTCCAAGCAGATGACCCCGCCAGC  
CCCTTGCCAGGCCAGAACCCAACTGGGGCAAGGGCCCTCCAGAGACCAGAAGCAGCTTAGAGTTGGAC  
ACGGAGCTGAGCTGGATTTAGGAGACCTCCTGCCCCCTGGCGGCCAGGAGGAGCCCCATCCCCACGGG  
ACCTGAAGAAGTGTACAGCGTGGAGGCCAGAGCTGCCAGCGCCGGCCTACGTCTGGCTGGATGAGCA  
GAGGAGACTCTATCGCCGTGAGTGCCTGGACAGCGGCTCCCAACCCCACTGGGCACAGACCCCTCT  
AACCTTGGGGGCCAGCCTCTTGGGGGCCTGGGAGCCGGCCAAAGAAAAACTCAGCCCGCCTAGTATCA  
CCATAGACCCCCGAGAGCCAAGGTCTCGGACCCCGCCAGCCCTGGTATCTGCCTCCGAGGAGGGC  
TCCGTCCAGCGACTCCAAGGATCCCTTGGCCTCTGGCCCCCTGACAGCATGGCTGCCTCGCCCTCCCA  
AAGAAAGATGTGCTGAGTCTCTCCGGTTTATCCTCTGACCCAGCAGACCTGGACCCC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

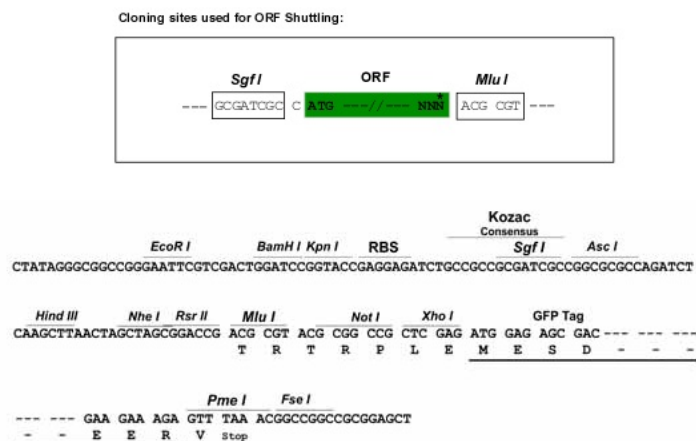
**Protein Sequence:** >RG235380 representing NM\_001256328  
 Red=Cloning site Green=Tags(s)

MDEEDGAGAAESGQPRFSMRLNDLSGAGGRPGPSAEKDPGSADSEAEGLPYPALAPVVFVYLSQDSRP  
 RSWCLRTVCNPWFERISMLVILLNCVTLMGFRPCEDIACDSQRCRILQAFDDFIFAFFAVEMVVKMVALG  
 IFGKKCYLGDTWNRLDFFIVIAGMLEYSLDLQNVSFSAVRTVRVLRPLRAINRVPSMRILVTLTLLDTPM  
 LGNVLLLCFFVFFIFGI VGVQLWAGLLRNRCFLPENFSLPLSVDLERYYTENEDESPFICSPRENGMR  
 SCRSVPTLRGDGGGPPCGLDYEA YNSSNTTCVNNWQYYTNC SAGEHNPFGAINFDNIGYAWIAIFQV  
 ITLEGWVDIMYFVMDAHSFYNF IYFILLIIVGSFFMINLCLVVIATQFSETKQRESQLMREQRVRFLSNA  
 STLASFSEPGSCYEELLYLVYILRKAARRLAQVSRAAGVRVGLLSSPAPLGGQETQPSSSCSRSHRRLS  
 VHHLVHHHHHHHHYHLGNGTLRAPRASPEIQDRDANGSRRLMLPPPSTPALSGAPPGGAESVHSFYHAD  
 CHLEPVRCAQPPRSPSEASGRTVGSGKVVYPTVHTSPPPETLKEKALVEVAASSGPPTL TSLNIPPGPYS  
 SMHKLLETQSTGACQSSCKISSPCLKADSGACGPDSCPYCARAGAGEVELADREMPDSDSEAVYEFQDA  
 QHSDLRDPHSRRQRSLGPAEPSSVLA FWRLICDTFRKIVDSKYFGRGIMIAILVNTLSMGIEYHEQPEE  
 LTNALEISNIVTSLFALEMLLKL VYGPFYIKNPYNI FDGVI VVISVWEIVGQGGGLSVLRTFRMLR  
 VLKLVRFLPALQRQLVVLMTMDNVATFCMLLM LFI FIF SILGMHLFGCKFASERDGTLPDRKNFDSLL  
 WAI VTVFQIL TQEDWNKVL YNGMASTSSWAALYFIALMTFGNYVLFNLLVAILVEGFQAEIISKREDASG  
 QLSCIQLPVDSQGGDANKSESEPDFSPSLDGDGDRKKCLALVSLGEHPELRKSLLPPLIHTAATPMSL  
 PKSTSTGLGEALGPASRR TSSSGSAEPGAAHEMKSP SARSSPHSPWSAASSWTSRRSSRNSLGRAPSLK  
 RRSPPSGERRSLLSGEGQESQDEEESSEERASPA GSDHRHRGSLEREAKSSFDLPDTLQVPLHRTASGR  
 GSASEHQDCNGKSASGRALARLPDPPLDGDDADDEGNL SKGERVRAWIRARLPACCLERDSWSAYIFP  
 PQSRFRLLCHRIITHKMFHDVVLVII FLNCITIAMERPKIDPHSAERIFLTL SNYIFTAVFLAEMTVKVV  
 ALGWCFGEQAYLRSSWNVLDGLLVLISVIDILVSMVSDSGTKILGMLRVLRLLRTRLRPLRVISRAQGLKL  
 VVETLMSLKPIGNIVVICCAFFIIFGILGVQLFKGKFFVCQGEDTRNITNKSDCAEASRYRWRHKYNFD  
 NLGQALMSL FVLASKDGWVDIMYDGLDAVGV DQQPIMNHNPMWMLLYFISFLLIVAFFVLNMFVGVVVENF  
 HKCRQHQEEEEARRREEKRLRRL EKKRRKAQCKPYSDYSRFRLLVHHLCTSHYLDL FITGVI GLNVVTM  
 AMEHYQQPQILDEALKICNYIFTVIFVLESVFKLVAFGFRFFQDRWNQLDLAIVLLSIMGITLEEIEVN  
 ASLPINPTIIRIMRVLRIARVLKLLKMAVGM RALLDTVGNLGLLFMLFFIFAALGVELFGDLECDETHP  
 CEGLGRHATFRNFGMAFLTLFRVSTGDNWNGIMKDTLRDCDQESTCYNTVISPIYFVSFVLT AQFVLVNV  
 VIAVLMKHLEESNKEAKEAEAELEEMKTLSPQHSPLGSPFLWPGVEGPDSPD SPKPGALHPAAHA  
 RSASHFSLEHPTMQPHTELP GPDLLTVRKSGVSRTHSLPND SYMCRHGSTAEGPLGHRGWGLPKAQSGS  
 VLSVHSQPADTSYILQLPKDAPHL LQPHSAPTWTGIPKLP PPGRSPLAQRP LRRQAAIRTDSLDVQGLGS  
 REDLLAEVSGSPPLARAYSFWGQSSTQAQQHSRSHSKI SKHMTPPAPCPGPEPNWGKGPETRSSELED  
 TELSWISGDLPPGGQEPPSPRDLKCCYSVEAQSCRRRPTSWLDEQRRHSIAVSCLDSGSQPHLGTDP S  
 NLGGQPLGGPSRPKKLSPPSITIDPPESQGPRTPPSPGICLRRRAPSSDSK DPLASGPPDSMAASPS  
 KKDVLSL SGLSSDPADLDP

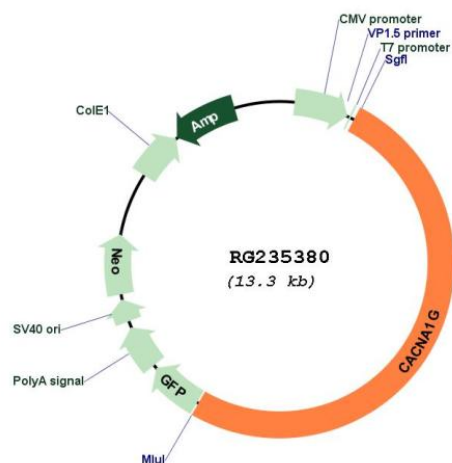
TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**ACCN:** NM\_001256328

**ORF Size:** 6777 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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001256328.2</a>
<b>RefSeq Size:</b>	7910 bp
<b>RefSeq ORF:</b>	6780 bp
<b>Locus ID:</b>	8913
<b>UniProt ID:</b>	<a href="#">O43497</a>
<b>Cytogenetics:</b>	17q21.33
<b>Protein Families:</b>	Druggable Genome, Ion Channels: Calcium, Transmembrane
<b>Protein Pathways:</b>	Calcium signaling pathway, MAPK signaling pathway, Type II diabetes mellitus
<b>Gene Summary:</b>	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]