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Product datasheet for RG239941

CACNA2D2 (NM_001291101) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA2D2 (NM_001291101) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CACNA2D2
Synonyms:	CACNA2D; CASVDD
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>RG239941 representing NM_001291101.
Blue=ORF Red=Cloning site Green=Tag(s)

GCTCGTTTAGTGAACCGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTG
GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC
ATGCAGCACTGGGCCCGGCGTCTGGAGCAGGAGGTCGACGGCGTGATGCGGATTTTTGGAGGCGTCCAG
CAGCTCCGTGAGATTTACAAGGACAACCGGAACCTGTTCGAGGTACAGGAGAATGAGCCTCAGAAGTTG
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TATGACGCCAAGGCTGACGCTGAGCTGGACGACCCTGAGAGTGAGGATGTGGAAAGGGGGTCTAAGGCC
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GTACAGATCCCTACGGACATCTACAAAGGCTCCACTGTCATCCTCAATGAGCTCAACTGGACAGAGGCC
CTGGAGAATGTGTTCATGGAAAACCGCAGACAAGACCCCACACTGCTGTGGCAGGTCTTCGGCAGCGCC
ACAGGAGTCACTCGCTACTACCCGGCCACCCCGTGGCGAGCCCCCAAGAAGATCGACCTGTACGATGTC
CGAAGGAGACCCTGGTATATCCAGGGGGCCTCGTCACCCAAAGACATGGTCATCATCGTGGATGTGAGT
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GTGCAGGCCAATGTGCGCAACAAGAAGGTGTTCAAGGAAGCTGTGCAGGGCATGGTGGCCAAGGGCACC
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GACCTGAACGGCTACGTGTTGCTGCACCCCAATCTCAAGCCCCAGACCACCAACTTCCGGGAGCCTGTG

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ACTCTGGACTTCCTGGATGCGGAGCTAGAGGATGAGAACAAGGAAGAGATCCGTCGGAGCATGATTGAT
GGCAACAAGGGCCACAAGCAGATCAGAACGTTGGTCAAGTCCCTGGATGAGAGGTACATAGATGAGGTG
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TGTGGCCGCGGGGCCTCCTTCCCGCCGTCGCTGGGCGTCCTGGTCTCCCTGCAACTGCTGCTCCTCCTG
GGCCTGCCGCCCCGGCCGCAGCCTCAAGTCCTCGTCCACGCCTCTCGCCGCCTC
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC

Protein Sequence:

>Peptide sequence encoded by RG239941
Blue=ORF Red=Cloning site Green=Tag(s)

MQHWARRLEQEVDGVMRIFGGVQQLREIYKDNRNLFEVQENEPQKLVEKVAGDIESLLDRKVQALKRLA
DAAENFQKAHRWQDNIKEEDIVYYDAKADAELDDPESEDVERGSKASTLRLDFIEDPNFKNKVNYSYAA
VQIPTDIYKGSTVILNELNWTEALENVFMENRRQDPTLLWQVFGSATGVTRYYPATPWRAPKKIDLYDV
RRRPWYIQGASSPKDMVIIVDVSGSVSGLTLKLMKTSVCEMLDTLSDDDYVNVASFNEKAQPVSCFTHL
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NWPNRTVRVFTFSVGQHNYDVTPLQWMACANKGYYFEIPSIGAIRINTQEYLDVLGRPMVLAGKEAKQV
QWTNVYEDALGLGLVVTGTLPVFNLTQDGPGEKKNQLILGVMGIDVALNDIKRLTPNYTLGANGYVFAI
DLNGYVLLHPNLKPQTTNFREPVTLDFLDAELEDENKEEIRRSMIDGNKGHKQIRTLVKSLDERYIDEV
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SDNNTEFLKNFIELMEKVTPDSKQCNNFLLHNLILDTGITQQLVERVWRDQDLNTYSLLAVFAATDGGI
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TSAAAWSLFQQLLYGLIYHSWFQADPAEAEGSPETRESSCVMKQTQYYFGSVNASYNAIIDCGNCSRLF
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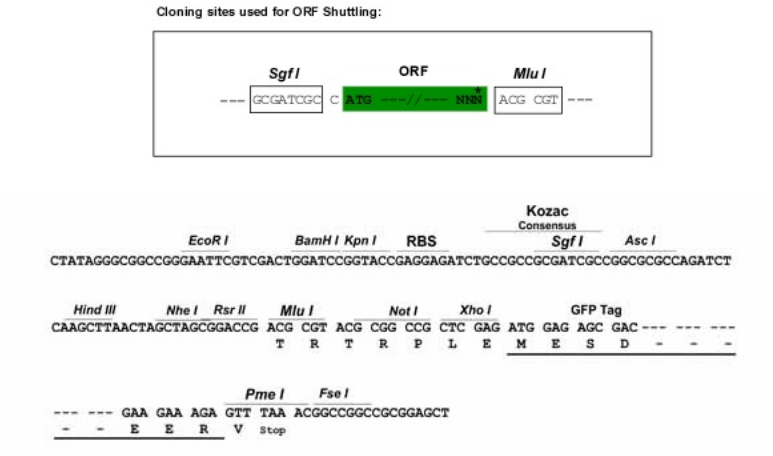
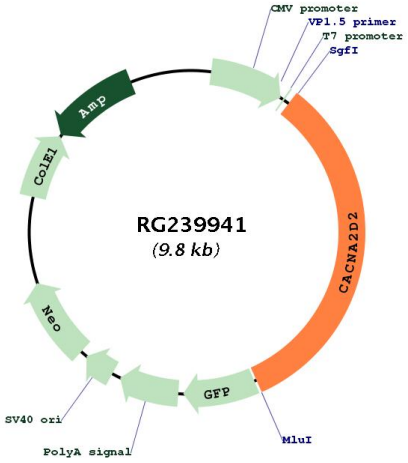
Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:	NM_001291101
ORF Size:	3228 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).
RefSeq:	NM_001291101.1, NP_001278030.1
RefSeq Size:	5461 bp
RefSeq ORF:	3231 bp
Locus ID:	9254
UniProt ID:	Q9NY47
Cytogenetics:	3p21.31
Protein Families:	Druggable Genome, Ion Channels: Other
Protein Pathways:	Arrhythmogenic right ventricular cardiomyopathy (ARVC), Cardiac muscle contraction, Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM), MAPK signaling pathway
MW:	122.6 kDa
Gene Summary:	Calcium channels mediate the entry of calcium ions into the cell upon membrane polarization. This gene encodes the alpha-2/delta subunit of the voltage-dependent calcium channel complex. The complex consists of the main channel-forming subunit alpha-1, and auxiliary subunits alpha-2/delta, beta, and gamma. The auxiliary subunits function in the assembly and membrane localization of the complex, and modulate calcium currents and channel activation/inactivation kinetics. The subunit encoded by this gene undergoes post-translational cleavage to yield the extracellular alpha2 peptide and a membrane-anchored delta polypeptide. This subunit is a receptor for the antiepileptic drug, gabapentin. Mutations in this gene are associated with early infantile epileptic encephalopathy. Single nucleotide polymorphisms in this gene are correlated with increased sensitivity to opioid drugs. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Mar 2014]