

## Product datasheet for SC121942

### CACNA2D3 (NM\_018398) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA2D3 (NM_018398) Human Untagged Clone
Tag:	Tag Free
Symbol:	CACNA2D3
Synonyms:	HSA272268
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF: >OriGene sequence for NM\_018398 edited  
GGCAGGCGGGGCGGCGGAGCGAGCAGGCCCGCGGCTCGCCACCGCCGCTC  
CGCGCAGCTCCCGCGGCGCTCTCGTCGCCCGCAGCGGCGCGTGGAGGGAGCCCA  
GCATGGCCGGGCGGGCTCGCCGCGCGCGTCCCGGGGGCCTCGGCGTTCTCGCTG  
CCGCGCTTCTCTACGCCGCGCTGGGGACGTGGTGGCTCGGAGCAGCAGATACCCTCT  
CCGTGGTGAAGCTCTGGGCTCGGCTTTTGGTGGGAGATAAAATCCATTGCTGTAAGT  
ACTCCGGTCCCAGCTTCTGCAAAAGAAATACAAAGAGTATGAGAAAGACGTTGCCATAG  
AAGAAATTGATGGCCTCCAAGTAAAGAAAGCTGGCAAAGAACATGGAAGAGATGTTTC  
ACAAGAAGTCTGAGGCCGTCAGGCGTCTGGTGGAGGCTGCAGAAGAAGCACACCTGAAAC  
ATGAATTTGATGCAGACTTACAGTATGAATACTTCAATGCTGTGCTGATAAATGAAAGGG  
ACAAAGACGGGAATTTTTGGAGCTGGGAAAGGAATTCATCTTAGCCCCAATGACCATT  
TTAATAATTTGCCTGTGAACATCAGTCTAAGTGACGTCCTAAGTACCAACGAACATGTACA  
ACAAAGACCTGCAATTGTCAATGGGGTTTATTGGTCTGAATCTCTAAACAAAGTTTTTG  
TAGATAACTTTGACCGTGACCCATCTCTCATATGGCAGTACTTTGGAAGTGCAAAGGGCT  
TTTTTAGGCAGTATCCGGGGATTAATGGGAACCAGATGAGAATGGAGTCATTGCCTTCG  
ACTGCAGGAACCGAAAATGGTACATCCAGGCAGCAACTTCTCCGAAAGACGTGGTCATTT  
TAGTTGACGTCAGTGGCAGCATGAAAGGACTCCGCTGACTATCGCGAAGCAAACAGTCT  
CATCCATTTTGGATACACTTGGGGATGATGACTTCTTCAACATAATTGCTTATAATGAGG  
AGCTTCACTATGTGGAACCTTGCCTGAATGGAACCTTTGGTGAAGCCGACAGGACAAACA  
AAGAGCACTTCAGGGAGCATCTGGACAAAATTTTCGCCAAAGGAATTGGAATGTTGGATA  
TAGCTCTGAATGAGGCCTTCAACATTCTGAGTGATTTCAACCACACGGGACAAGGAAGTA  
TCTGCAGTCAGGCCATCATGCTCATAACTGATGGGGCGGTGGACACCTATGATACAATCT  
TTGCAAAATACAATTGGCCAGATCGAAAGGTTTCGCATCTTACATACCTCATTGGACGAG  
AGGCTGCGTTTGCAGACAATCTAAAGTGGATGGCCTGTGCCAACAAAGGATTTTTTACC  
AGATCTCCACCTTGGCTGATGTGCAGGAGAATGTCATGGAATACCTTACGCTGCTTAGCC  
GGCCAAAGTCATCGACCAGGAGCATGATGTTGGTGTGGACCGAAGCTTACATTGACAGCA  
CTCTCCCTCAGGCACAAAAGCTGACTGATGATCAGGGCCCGTCTGATGACCACTGTAG



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CCATGCCTGTGTTTAGTAAGCAGAACGAAACCAGATCGAAGGGCATTCTTCTGGGAGTGG  
TTGGCACAGATGTCCCAGTGAAAGAACTTCTGAAGACCATCCCCAAATACAAGTTAGGGA  
TTCACGGTTATGCCTTTGCAATCACAAATAATGGGTATATCCTGACGCATCCGGAACCTCA  
GGCTGTGTACGAAGAAGGAAAAAGCGAAGGAAACCTAACTATAGTAGCGTTGACCTCT  
CTGAGGTGGAGTGGGAAGACCGAGATGACGTGTTGAGAAATGCTATGGTGAATCGAAAGA  
CGGGGAAGTTTTCCATGGAGGTGAAGAAGACAGTGGACAAAGGAAACGGGTTTTGGTGA  
TGACAAATGACTACTATTATACAGACATCAAGGGTACTCCTTTTCAGTTTAGGTGTGGCGC  
TTTCCAGAGGTGATGGGAAATATTTCTTCCGAGGGAATGTAACCATCGAAGAAGGCCTGC  
ATGACTTAGAACATCCCCGATGTGTCCTTGGCAGATGAATGGTCTACTGCAACACTGACC  
TACACCCTGAGCACCGCCATCTGTCTCAGTTAGAAGCGATTAAGCTCTACCTAAAAGGCA  
AAGAACCCTGTCTCCAGTGTGATAAAGAATTGATCCAAGAAGTCCTTTTTGACGCGGTGG  
TGAGTGCCCCATTGAAGCGTATTGGACCAGCCTGGCCCTCAACAATCTGAAAATTCTG  
ACAAGGGCGTGGAGTTGCCTTCTCGGCACTCGCACGGGCTCTCCAGAATCAACCTGT  
TTGTGGGGCTGAGCAGCTCACCAATCAGGACTTCTGAAAGCTGGCGACAAGGAGAACA  
TTTTTAACGCAGACCATTTCCCTCTCTGGTACCGAAGAGCCGCTGAGCAGATTCCAGGGA  
GCTTCGTCTACTCGATCCATTACGCACTGGACCAGTCAATAAAAAGCAATGTGGTGACAG  
CAAGTACATCCATCCAGCTCCTGGATGAACGGAATCTCCTGTGGTGGCAGCTGTAGGCA  
TTCAGATGAAACTTGAATTTTTCCAAAGGAAGTTCTGGACTGCCAGCAGACAGTGTGCTT  
CCCTGGATGGCAAATGCTCCATCAGCTGTGATGATGAGACTGTGAATTGTTACCTCATAG  
ACAATAATGGATTTATTTGGTGTCTGAAGACTACACACAGACTGGAGACTTTTTTGGTG  
AGATCGAGGGAGCTGTGATGAACAAATTGCTAACAAATGGGCTCCTTTAAAAGAATTACCC  
TTTATGACTACCAAGCCATGTGTAGAGCCAACAAGGAAAGCAGCGATGGCGCCCATGGCC  
TCCTGGATCCTTATAATGCCTTCTCTCTGCAGTAAAATGGATCATGACAGAACTTGTCT  
TGTTCTGGTGGAAATTTAACCTCTGCAGTTGGTGGCACTCCGATATGACAGCTAAAGCCC  
AGAAATTGAAACAGACCCTGGAGCCTTGTGATACTGAATATCCAGCATTCTGCTCTGAGC  
GCACCATCAAGGAGACTACAGGGAATATTGCTTGTGAAGACTGCTCCAAGTCCTTTGTCA  
TCCAGCAAATCCCAAGCAGCAACCTGTTTATGGTGGTGGTGGACAGCAGCTGCCTCTGTG  
AATCTGTGGCCCCATCACCATGGCACCCATTGAAATCAGGTATAATGAATCCCTTAAGT  
GTGAACGTCTAAAGGCCAGAAGATCAGAAGGCGCCAGAATCTTGTGATGGCTCCATC  
CTGAGGAGAATGCAAGGGAGTGTGGGGTGCGCCGAGTCTCAAGCCAGACAGTCTCTCC  
TTCTGCTCCCTCTGCTTTTGTGCTCTTCTCAAGGTGACTGACTGAGATGTTCTCTTA  
CTGACTGAGATGTCTCTTGGCATGCTAAATCATGGATAAACTGTGAACCAAAATATGGT  
GCAACATACGAGACATGAATATAGTCCAACCATCAGCATCTCATCATGATTTTAACTGT  
GCGTGATAAACTCTTAAAGATATGTTGACAAAAAGTTATCTATCATCTTTTACTTTG  
CCAGTCATGCAAATGTGAGTTTGGCACATGATAATCACCCCTTCATCAGAAATGGGACCGC  
AAGTGGTAGGCAGTGTCCCTTCTGCTTGAACCTATTGAAACCAATTTAAACTGTGTAC  
TTTTTAAATAAAGTATATTTAAATCATAAAAAAAAAAAAAAAAAA

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_018398 unedited  
 ATTCGGCACGAGGGGCGAGGCGGGGCGGCGGAGCAGGAGCAGCAGCCCCGCGCGCTCGC  
 CCACCGCCCGCTCCGCGCAGCTCCCCGCGGCGCTCTCGTCGCGCCGCGCAGCGGGGCGGT  
 CGGAGGGAGCCCAGCATGGCCGGGCGGGCTCGCCGCGCCGCGCTCCCGGGGGCCTCG  
 GCGTTCTCGTGCCGCGCTTCTACGCCGCGCTGGGGACGTGGTGCCTCGGAGCAG  
 CAGATACCGCTCTCCGTGGTGAAGCTCTGGGCTCGGCTTTTGGTGGGAGATAAAATCC  
 ATTGCTGCTAAGTACTCCGTTCCAGCTTCTGCAAAGAAATACAAAGAGTATGAGAAA  
 GACGTTGCCATAGAAGAAATTGATGGCCTCCAAGTAAAGAAGCTGGCAAAGAACATG  
 GAAGAGATGTTTCACAAGAAGTCTGAGGCCGTCAGGCGTCTGGTGGAGGCTGCAGAAGAA  
 GCACACCTGAAACATGAATTTGATGCAGACTTACAGTATGAATACTTCAATGCTGTGCTG  
 ATAAATGAAAGGGACAAAGACGGGAATTTTTGGAGCTGGGAAAGGAATTCATCTTAGCC  
 CCAAATGACCATTNTAATAATTTGCCTGTGAACATCAGTCTAAGTGACGTCCAAGTACCA  
 ACGAACATGTACAACAAAGACCTGCAATTGTCAATGGGTTTATTGGTCTGAATCTCTA  
 AACAGTTTTTGTAGATAACTTTGACCGTGACCCATCTCTCATATGGCAGTACTTTTGA  
 GTGCANAGGGCTTTTTTAGCAGTATCCGGGGATTAATGGGACCAGATGAGNATGGAGT  
 CATTGCCTTCGACTGCAGGAACCGAAATGGTACATNCAGGCAGNAACTTTTCGAAAGACG  
 GG

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_018398 unedited  
 TCCCCCAATGACTATGTACCGCGCCGTATACTATGATCGATTTTCTTTTTTTTTT  
 TTTTATGATTTTAAATACTTTATTTAAAAATACACAGTTTTAAATTGGTTTCAATAGG  
 TTTCAAGCAGAAGGGACTGCCTACCCTTGGGTTCCATTTCTGATGAAGGGTGATTA  
 TCATGTGGCAAATCACATTTGCATGACTGGCAAAGTTAAAAGATGATAGATAACTTTTT  
 GTCAACATATCTTAAAGAGTTTATACACGCACAGTTTAAAATCATGATGAGATGCTGAT  
 GGTTGGACTATATTCATGTCTCGTATGTTGCACCATATTTGGTTCACAGTTTATCCATG  
 ATTTAGCATGCCAAGAGAACATCTCAGTCAGTAAGAGAACATCTCAGTCAGTGTCACCTT  
 GAGAAGGCATCAAAGCAGAGGGAGCAGAAGGAGGACTGTCTGGGCTTGAGACTCGGC  
 GCACCCACACTCCCTTGCAATTCCTCAGGATGGAAGCCATGACAAGATTCTGGGCGC  
 CTTCTGATCTTCTGGGCTTTAGACGTTTCACTTAAGGGATTCAATTATACCTGATTTCA  
 ATGGGTGCCATGGTATGGGGGCCACAGATTCCCAGAGGCCGCTGCTGTCCACCACCACC  
 ATGAACAGGTTGCTGCCTTGGGATTGGCTGGATGACAAAGGACTTGAACAATCTTTACA  
 AACCATATCCCGGGAGTTCCCTTTGAGGTGCCCTCACAAACCAATGGCTGGATATTTAA  
 GAACACAAGGCCCTCCAGGGTTCTGTTTCAACTTTCTGGGCTTTACCTGGCCAATCGGGC  
 GTGGCCCCCAC

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_018398

**Insert Size:**

3800 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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 TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

**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\\_018398.2](#), [NP\\_060868.2](#)

**RefSeq Size:** 3689 bp

**RefSeq ORF:** 3276 bp

**Locus ID:** 55799

**UniProt ID:** [Q8IZS8](#)

**Cytogenetics:** 3p21.1-p14.3

**Domains:** VWA, Cache

**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

**Gene Summary:**

This gene encodes a member of the alpha-2/delta subunit family, a protein in the voltage-dependent calcium channel complex. Calcium channels mediate the influx of calcium ions into the cell upon membrane polarization and consist of a complex of alpha-1, alpha-2/delta, beta, and gamma subunits in a 1:1:1:1 ratio. Various versions of each of these subunits exist, either expressed from similar genes or the result of alternative splicing. Research on a highly similar protein in rabbit suggests the protein described in this record is cleaved into alpha-2 and delta subunits. Alternate transcriptional splice variants of this gene have been observed but have not been thoroughly characterized. [provided by RefSeq, Jul 2008]