

## Product datasheet for **SC311958**

### CACNA1C (NM\_199460) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA1C (NM_199460) Human Untagged Clone
Tag:	Tag Free
Symbol:	CACNA1C
Synonyms:	CACH2; CACN2; CACNL1A1; CaV1.2; CCHL1A1; LQT8; TS; TS. LQT8
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene ORF sequence for NM\_199460 edited  
 ATGGTCAATGAGAATACGAGGATGTACATTCCAGAGGAAAACCAAGTTCCAATAT  
 GGGAGCCACGCCCGCCATGCCAATGAATGCCAATGCGGCAGCGGGCTGGCCCT  
 GAGCACATCCCCACCCCGGGGCTGCCCTGTCGTGGCAGGCGCCATCGACGCAGCCCG  
 CAGGCTAAGCTGATGGGCAGCGCTGGCAATGCGACCATCTCCACAGTCAGCTCCACGCAG  
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GTCAAGTCTAATGTCTTCTACTGGCTGGTGATTTTCTGGTGTTCTCAACACGCTCACC  
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 ACACCGCCCTGGTGCCTCCCTCGCCCCGCGGCTACCCAGCACGGTCAAGCTGTGG  
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 TTGTGAACTGCAGGGACGCGGGCAGGACCGAGCCGGGGGGAAGAGGACGCGGGCTGTG  
 TCGCGCGCGGGGTGACCCGAGTGAGGAGGAGCTCCAGGACAGCAGGGTCTACGTGAGCA  
 GCCTGTAG

**Restriction Sites:** Please inquire  
**ACCN:** NM\_199460  
**Insert Size:** 8000 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\\_199460.1](#), [NP\\_955630.1](#)

**RefSeq Size:** 3190 bp

**RefSeq ORF:** 384 bp

**Locus ID:** 775

**UniProt ID:** [Q13936](#)

**Cytogenetics:** 12p13.33

**Protein Families:** Druggable Genome, Ion Channels: Calcium, Transmembrane

**Protein Pathways:** Alzheimer's disease, Arrhythmogenic right ventricular cardiomyopathy (ARVC), Calcium signaling pathway, Cardiac muscle contraction, Dilated cardiomyopathy, GnRH signaling pathway, Hypertrophic cardiomyopathy (HCM), Long-term potentiation, MAPK signaling pathway, Type II diabetes mellitus, Vascular smooth muscle contraction

**Gene Summary:**

This gene encodes an alpha-1 subunit of a voltage-dependent calcium channel. Calcium channels mediate the influx of calcium ions into the cell upon membrane polarization. The alpha-1 subunit consists of 24 transmembrane segments and forms the pore through which ions pass into the cell. The calcium channel consists of a complex of alpha-1, alpha-2/delta, beta, and gamma subunits in a 1:1:1:1 ratio. There are multiple isoforms of each of these proteins, either encoded by different genes or the result of alternative splicing of transcripts. The protein encoded by this gene binds to and is inhibited by dihydropyridine. Alternative splicing results in many transcript variants encoding different proteins. Some of the predicted proteins may not produce functional ion channel subunits. [provided by RefSeq, Oct 2012]

Transcript Variant: This variant (1), also referred to as HFCC, encodes the longest isoform (1). This isoform (1) is predicted to form a non-functional calcium channel subunit because it contains an aberrant number of transmembrane domains. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.