

## Product datasheet for **SC304910**

### CACNA1H (NM\_021098) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** CACNA1H (NM\_021098) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** CACNA1H  
**Synonyms:** CACNA1HB; Cav3.2; ECA6; EIG6; HALD4  
**Mammalian Cell Selection:** None  
**Vector:** [pCMV6-XL5](#)  
**E. coli Selection:** Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene sequence for NM\_021098 edited  
 ATGACCGAGGGCGCACGGGCCCGGACGAGGTCCGGGTGCCCTGGGCGCGCCGCCCT  
 GGCCCTGCGGCGTTGGTGGGGCGTCCCGGAGAGCCCCGGGGCGCCGGGACGCGAGGCG  
 GAGCGGGGGTCCGAGCTCGGCGTGTACCCTCCGAGAGCCCGGCGCCGAGCGCGCGCG  
 GAGCTGGGTGCCGACGAGGAGCAGCGCGTCCCGTACCCGGCCTTGGCGGCCACGGTCTTC  
 TTCTGCCTCGGTGAGACGCGGCCGCGCAGCTGGTGCCTCCGGCTGGTCTGCAACCCA  
 TGGTTCGAGCACGTGAGCATGCTGGTAATCATGCTCAACTGCGTGACCCTGGGCATGTT  
 CGGCCCTGTGAGGACGTTGAGTGGGCTCCGAGCGCTGCAACATCCTGGAGGCCTTTGAC  
 GCCTTCATTTTCGCTTTTTTTCGGTGGAGATGGTCATCAAGATGGTGGCCTTGGGGCTG  
 TTCGGGCAGAAGTGTACCTGGGTGACACGTGGAACAGGCTGGATTTCTCATCGTCGTG  
 GCGGGCATGATGGAGTACTCGTTGGACGGACACAACGTGAGCCTCTCGGCTATCAGGACC  
 GTGCGGGTGTGCGGCCCTCCGCGCCATCAACCGCGTGCTAGCATGCGGATCCTGGTC  
 ACTCTGCTGCTGGATACGCTGCCATGCTCGGGAACGTCTTCTGCTGTGCTTCTTCGTC  
 TTCTTCATTTTCGGCATCGTTGGCGTCCAGCTCTGGGCTGGCCTCCTGCGGAACCGCTGC  
 TTCTGGACAGTGCCTTTGTGAGGAACAACAACCTGACCTTCTGCGGCCGACTACTACCAG  
 ACGGAGGAGGGCGAGGAGAACCCTTTCATCTGCTCCTCACGCCGAGACAACGGCATGCAG  
 AAGTGTCTGCACATCCCCGGCCCGCGAGCTGCGCATGCCCTGCACCCTGGGCTGGGAG  
 GCCTACACGCAGCCGAGGCCGAGGGGGTGGGCGCTGCACGCAACGCCTGCATCAACTGG  
 AACCACTACTACAACGTGTGCCGCTCGGGTGACTCAACCCCAACCGGTGCCATCAAC  
 TTCGACAACATCGCTACGCCTGGATTGCCATCTTCCAGTGATACGCTGGAAGGCTGG  
 GTGGACATCATGTACTACGTCATGGACGCCACTCATTCTACAACCTCATCTATTTTCATC  
 CTGCTCATCATCGTGGGCTCCTTCTTCATGATCAACCTGTGCCTGGTGGTATTGCCACG  
 CAGTTCTCGGAGACGAAGCAGCGGGAGAGTCACTGATGCGGGAGCAGCGGGCACGCCAC  
 CTGTCCAACGACAGCAGCTGGCCAGCTTCTCCGAGCCTGGCAGCTGCTACGAAGAGCTG  
 CTGAAGTACGTGGGCCACATATTCCGAAGGTCAAGCGGCGCAGCTTGCCTCTACGCC  
 CGCTGGCAGAGCCGCTGGCGCAAGAAGGTGACCCAGTGTGCAAGGCCAGGGTCCC  
 GGGCACCGCCAGCGCCGGCAGGCAGGCACACAGCCTCGTGCACCACCTGGTTTACCAC



[View online »](#)

CACCATCACCACCACCACCACCCTACCATTTAGCCATGGCAGCCCCCGAGGCCCGGC  
 CCCGAGCCAGGCGCTGCGACACCAGGCTGGTCCGAGCTGGCGGCCCCCTCGCCACCT  
 TCCCCAGGCCGCGGACCCCGACGCAGAGTCTGTGCACAGCATCTACCATGCCGACTGC  
 CACATAGAGGGGCGCAGGAGAGGGCCGGGTGGCACATGCCGCAGCCACTGCCGCTGCC  
 AGCCTCAGACTGGCCACAGGGCTGGGCACCATGAACTACCCACGATCCTGCCCTCAGGG  
 GTGGGCAGCGGCAAAGGCAGCACCAGCCCCGACCCAAGGGGAAGTGGCCGGTGGACCG  
 CCAGGCACCGGGGGCACGGCCGTTGAGCTTGAACAGCCCTGATCCCTACGAGAAGATC  
 CCGCATGTGGTCGGGGAGCATGGACTGGGCCAGGCCCTGGCCATCTGTGGGCCCTCAGT  
 GTGCCCTGCCCTGCCAGCCCCAGCGGGCACACTGACCTGTGAGCTGAAGAGCTGC  
 CCGTACTGCACCCGTGCCCTGGAGGACCCGGAGGGTGGAGCTCAGCGGCTCGGAAAGTGA  
 GACTCAGATGGCCGTGGCGTCTATGAATTCACGCAGGACGTCCGGCACGGTGACCCTGG  
 GACCCACGCGACCACCCGTGCGACGGACACACCAGGCCAGGCCAGGCAGCCCCAG  
 CGGCGGGCACAGCAGAGGGCAGCCCCGGGCGAGCCAGGCTGGATGGGCCGCTCTGGGT  
 ACCTTCAGCGGAAGCTGCGCCGCATCGTGGACAGCAAGTACTTCAGCCGTGGCATCATG  
 ATGGCCATCCTTGTCAACAGCTGAGCATGGGCGTGGAGTACCATGAGCAGCCCCAGGAG  
 CTGACTAATGCTCTGGAGATCAGCAACATCGTGTTCACCAAGCATGTTGCCCTGGAGATG  
 CTGCTGAAGCTGCTGGCCTGCGGCCCTCTGGGCTACATCCGGAACCCGTACAACATCTTC  
 GACGGCATCATCGTGGTTCATCAGCGTCTGGGAGATCGTGGGGCAGGCCGAGGTGGCTTG  
 TCTGTGCTGCGCACCTTCCGGCTGCTGCGTGTGCTGAAGCTGGTGCCTTTCTGCCAGCC  
 CTGCGGCGCCAGCTCGTGGTGTGGTGAAGACCATGGACAACGTGGTACCTTTCTGCACG  
 CTGCTCATGCTCTTATTTTTCATCTTCAGCATCCTGGGCATGCACCTTTTTCGGTGAAG  
 TTCAGCTGAAGACAGACACCCGAGACACCGTGCCTGACAGGAAGAACTTCGACTCCCTG  
 CTGTGGCCATCGTCACCGTGTCCAGATCCTGACCCAGGAGACTGGAACGTGGTCTCTG  
 TACAACGGCATGGCCTCCACCTCCTCTGGGCGGCCCTTACTTCTGGCCCTCATGACC  
 TTCGGCAACTATGTGCTTCAACCTGCTGGTGGCCATCCTCGTGGAGGGCTTCCAGGCG  
 GAGGGCGATGCCAACAGATCCGACACGGACGAGGACAAGACGTCCGTCCACTTCGAGGAG  
 GACTTCCACAAGCTCAGAGAATCCAGACCACAGAGCTGAAGATGTGTTCCCTGGCCGTG  
 ACCCCCAACGGGCACCTGGAGGGACGAGGCAGCCTGTCCCTCCCTCATCATGTGCACA  
 GCTGCCACGCCATGCCTACCCCAAGAGCTCACCATTCTGGATGCAGCCCCAGCCTC  
 CCAGACTCTCGGCGTGGCAGCAGCAGCTCCGGGACCCGCCACTGGGAGACCAGAAGCCT  
 CCGGCCAGCCTCCGAAGTTCCTCTGTGCCCTGGGGCCCCAGTGGCGCTGGAGCAGC  
 CGGCGCTCCAGCTGGAGCAGCCTGGGCCGTGCCCCAGCCTCAAGCGCCCGGCCAGTGT  
 GGGGAACGTGAGTCCCTGCTGTCTGGCGAGGGCAAGGGCAGCACCAGCAGCAAGCTGAG  
 GACGGCAGGGCCGCGCCCGGCCCTGCCACCCACTGCGGCGGGCCGAGTCCCTGGAC  
 CCACGGCCCTGCGGCGGGCCGCTCCCGCCTACCAAGTCCCGCATCGCGACGGGCGAG  
 GTGGTGGCCCTGCCAGCGACTTCTTCTGCGCATCGACAGCCACCGTGGAGTGCAGCC  
 GAGCTTGACGACGACTCGGAGGACAGCTGCTGCCTCCGCTGCATAAAGTGTGGAGCCC  
 TACAAGCCCCAGTGGTGGCGAGCCGCGAGGCCGGGCCCTTACCTTCTCCCCACAG  
 AACCGTTCCGCGTCTCCTGCCAGAAGGTATCACACACAAGATGTTTGATCACGTGGTC  
 CTGCTTTCATCTTCTCAACTGCGTCACCATCGCCCTGGAGAGCCCTGACATTGACCCC  
 GGCAGCACCGAGCGGGTCTTCTCAGCGTCTCAATTACATCTTACGGCCATCTTCGTG  
 GCAGAGATGATGGTGAAGGTGGTGGCCCTGGGGTGTGTCCGGCGAGCAGCCTACCTG  
 CAGAGCAGCTGGAACCTGCTGGATGGGCTGCTGGTGTGCTGCTGCTGGTGGACATTGTC  
 GTGGCCATGGCCTCGGCTGGTGGCGCAAGATCCTGGGTGTTCTGCGCGTGTGCGTCTG  
 CTGCGGACCTGCGGCCCTGAGGGTTCATCAGCCGGGCCCCGGGCCCTCAAGCTGGTGGT  
 GAGACGCTGATATCATCACTCAGGCCATTGGGAACATCGTCTCATCTGCTGCGCCTTC  
 TTCATCATTTTTGGCATCTTGGGTGTGAGCTCTTCAAAGGGAAGTTCTACTACTGCGAG  
 GGCCCCGACACCAGGAACATCTCCACCAAGGCACAGTGGCGGGCCGCCACTACCCTGG  
 GTGCGACGCAAGTACAACCTCGACAACCTGGGCCAGGCCCTGATGTGCGTGTTCGTGCTG  
 TCATCAAAGGATGGATGGGTGAACATCATGTACGACGGGCTGGATGCCGTGGGTGTGCG  
 CAGCAGCTGTGCAACCACAACCCCTGGATGCTGCTGTACTTCATCTCCTTCTGCTC  
 ATGTCAGCTTCTCGTGTCAACATGTTGTTGGGCGTGTGGTTCGAGAACTTCCACAAG

TGCCGGCAGCACCAGGAGCGGAGGAGGCGGCGGCGGCGAGAGGAGAAGCGGCTGCGGCGC  
 CTAGAGAGGAGGCGCAGGAAGGCCAGCGCCGCGCCTACTATGCCGACTACTCGCCACG  
 CGCCGCTCCATCACTCGCTGTGCACCAGCCACTATCTCGACCTTTCATCACCTTCATC  
 ATCTGTGTCAACGTCATCACCATGTCCATGGAGCACTATAACCAACCAAGTCGCTGGAC  
 GAGGCCCTCAAGTACTGCAACTACGTCTTACCATCGTGTTCGTTTCGAGGCTGCAGT  
 AAGCTGGTAGCATTGGGTTCCGTGGTCTTCAAGGACAGGTGGAACCAGCTGGACCTG  
 GCCATCGTGTCTGCTCACTCATGGGCATCACGCTGGAGGAGATAGAGATGAGCGCCGCG  
 CTGCCCATCAACCCACCATCATCCGCATCATGCGCGTGTTCGATTGCCCGTGTGCTG  
 AAGCTGTGAAGATGGCTACGGGCATGCGCGCCCTGCTGGACACTGTGGTGAAGCTCTC  
 CCCCAGGTGGGAACCTGGGCTTCTTTTCATGCTCCTGTTTTTATCTATGCTGCGCTG  
 GGAGTGGAGCTGTTCGGGAGGCTGGAGTGCAGTGAAGACAACCCCTGCGAGGGCTGAGC  
 AGGCACGCCACCTTCAGCAACTTCGGCATGGCCTTCTCACGCTGTTCCGCGTGTCCACG  
 GGGGACAACCTGGAACGGGATCATGAAGGACACGCTGCGCGAGTGTCCCGTGAGGACAAG  
 CACTGCCTGAGCTACCTGCCGGCCCTGTCGCCGTCTACTTCGTGACCTTCGTGCTGGT  
 GCCAGTTCGTGCTGGTGAACGTGGTGGTGGCCGTGCTCATGAAGCACCTGGAGGAGAGC  
 AACAAAGGAGGCACGGGAGGATGCCGAGCTGGACGCCGAGATCGAGCTGGAGATGGCGCAG  
 GGCCCCGGGAGTGCACGCCGGGTGGACGCGGACAGGCCTCCCTTGCCCCAGGAGTCCG  
 GGCGCCAGGGATGCCCAACCTGGTTGCACGCAAGGTGTCCGTGTCCAGGATGCTCTCG  
 CTGCCAACGACAGCTACATGTTTCAGGCCCGTGGTGCCTGCCTCGGCGCCCCACCCCGC  
 CCGCTGCAGGAGGTGGAGATGGAGACCTATGGGGCCGGCACCCCTTGGGCTCCGTTGCC  
 TCTGTGCACTCTCCGCCGACAGTCTGTGCCTCCCTCCAGATCCCACTGGCTGTGTGCG  
 TCCCCAGCCAGGAGCGGGGAGCCCTCCACGCCGTGCCCTCGGGGACAGCCCGCTCC  
 CCCAGTCTCAGCCGGCTGCTCTGCAGACAGGAGGCTGTGCACACCGATTCTTGGAAAGG  
 AAGATTGACAGCCCTAGGGACACCCTGGATCCTGCAGAGCTGGTGAGAAAACCCCGGTG  
 AGGCCGGTGAACCCAGGGGGCTCCCTGCAGTCCCACACGCTCCCCACGGCCCGCCAGC  
 GTCCGCACTCGTAAGCATACCTTCGGACAGCACTGCGTCTCCAGCCGGCCGGCGGCCCA  
 GGCGGAGAGGAGGCCGAGGCTCGGACCCAGCCGACGAGGAGGTGAGCCACATACCAGC  
 TCCGCTGCCCTGGCAGCCACAGCCGAGCCCATGGCCCCGAAGCCTCTCCGGTGGCC  
 GGGCGGAGCGGGACCTGCGCAGGCTCTACAGCGTGGACGCTCAGGGCTTCTGGACAAG  
 CCGGGCCGGGACGAGCAGTGGCGGCCCTCGGCGGAGCTGGGACGGGGAGCCTGGG  
 GAGGCGAAGGCCCTGGGGCCCTGAGGCCGAGCCCGCTCTGGGTGCGCGCAGAAAGAAGAAG  
 ATGAGCCCCCCTGCATCTCGGTGGAACCCCTGCGGAGGACGAGGGCTCTGCGCGGCC  
 TCCGCGGACAGGGCGGAGCACCACACTGAGGCGCAGGACCCCGTCTGTGAGGCCACG  
 CCTCACAGGGACTCCCTGGAGCCACAGAGGGCTCAGGCGCCGGGGGGACCCCTGCAGCC  
 AAGGGGAGCGCTGGGGCCAGGCCTCCTGCCGGCTGAGCACCTGACCGTCCCCAGCTTT  
 GCCTTTGAGCCGCTGGACCTCGGGTCCCAGTGGAGACCCTTTCTTGGACGGTAGCCAC  
 AGTGTGACCCAGAATCCAGAGCTTCTCTTTCAGGGCCATAGTCCCTGGAACCCCA  
 GAATCAGAGCCTCCATGCCCGTGGTACCCCCAGAGAAGAGCGGGGGCTGTACCTC  
 ACAGTCCCCAGTGTCTCTGGAGAAACCAGGGTCCCCCTCAGCCACCCCTGCCCAGGG  
 GGTGGTGCAGATGACCCGTTAGCTCGGGCTTGGTGCCGCCACGGCTTTGGCCCTGG  
 GGTCTGGGGCCCGCTGGGTGGAGGCCAGGAGAACCCTGCATGGACCTGACTTGG  
 GTCCCGTGTGAGCAGAAAGGCCGGGGAGGATGACGGCCAGGCCCTGGTTCTCTGCC  
 AGCGAAGCAGGAGTAGCTGCCGGCCCCACGAGCCTCCATCCGTTCTGGTTCGGGTTTCT  
 CCGAGTTTGTACCAG

**Restriction Sites:** Please inquire  
**ACCN:** NM\_021098  
**Insert Size:** 7300 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	The ORF of this clone has been fully sequenced and found to be a perfect match to NM_021098.2.
<b>Components:</b>	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_021098.2</a> , <a href="#">NP_066921.2</a>
<b>RefSeq Size:</b>	8097 bp
<b>RefSeq ORF:</b>	7062 bp
<b>Locus ID:</b>	8912
<b>UniProt ID:</b>	<a href="#">O95180</a>
<b>Cytogenetics:</b>	16p13.3
<b>Protein Families:</b>	Druggable Genome, Ion Channels: Calcium, Transmembrane
<b>Protein Pathways:</b>	Calcium signaling pathway, MAPK signaling pathway

**Gene Summary:**

This gene encodes a T-type member of the alpha-1 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. The alpha-1 subunit has 24 transmembrane segments and forms the pore through which ions pass into the cell. There are multiple isoforms of each of the proteins in the complex, either encoded by different genes or the result of alternative splicing of transcripts. Alternate transcriptional splice variants, encoding different isoforms, have been characterized for the gene described here. Studies suggest certain mutations in this gene lead to childhood absence epilepsy (CAE). [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (a).