

Product datasheet for **RC217910**

CACNB1 (NM_199247) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNB1 (NM_199247) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CACNB1
Synonyms:	CAB1; CACNLB1; CCHLB1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC217910 representing NM_199247
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGTCCAGAAGACCAGCATGTCCCGGGCCCTTACCCACCTCCAGGAGATCCCCATGGAGTCTTCG
 ACCCCAGCCCGCAGGGCAAATACAGCAAGAGGAAAGGGCGATTCAAACGGTCAGATGGGAGCACGTCTC
 GGATACCACATCCAACAGCTTTGTCGCCAGGGCTCAGCGGAGTCTACACCAGCCGTCCATCAGACTCT
 GATGTATCTCTGGAGGAGGACCGGGAAGCCTTAAGGAAGGAAGCAGAGCGCCAGGCATTAGCGCAGCTCG
 AGAAGGCCAAGACCAAGCCAGTGGCATTGCTGTGCGGACAAATGTTGGCTACAATCCGTCTCCAGGGGA
 TGAGGTGCCTGTGCAGGGAGTGGCCATCACCTTCGAGCCAAAGACTTCTGCACATCAAGGAGAAATAC
 AATAATGACTGGTGGATCGGGCGCTGGTGAAGGAGGGCTGTGAGGTTGGCTTCATCCAGCCCGTCA
 AACTGGACAGCCTTCGCCTGCTGCAGGAACAGAAGCTGCGCCAGAACCCTCGGCTCCAGCAAATCAGG
 CGATAACTCCAGTCCAGTCTGGGAGATGTGGTACTGGCACCCGCCGCCACACCCCTGCCAGTGGT
 AATGAAATGACTAACTTAGCCTTTGAACTAGACCCCTAGAGTTAGAGGAGGAAGAGGCTGAGCTTGGTG
 AGCAGAGTGGCTCTGCCAAGACTAGTGTAGCAGTGTACCACCCGCCACCCATGGCAAACGCATCCC
 CTTCTTTAAGAAGACAGAGCATGTGCCCCCTATGACGTGGTGCCTTCCATGAGGCCCATCATCCTGGTG
 GGACCGTCGCTCAAGGGCTACGAGGTTACAGACATGATGCAGAAAGCTTTATTTGACTTCTTGAAGCATC
 GGTTTGATGGCAGGATCTCCATCACTCGTGTGACGGCAGATATTTCCCTGGCTAAGCGCTCAGTTCTCAA
 CAACCCAGCAAACACATCATCATTGAGCGCTCCAACACACGCTCCAGCCTGGCTGAGGTGCAGAGTGAA
 ATCGAGCGAATCTTCGAGCTGGCCCGACCTTCAGTTGGTCGCTCTGGATGCTGACACCATCAATCACC
 CAGCCCAGCTGTCCAAGACCTCGCTGGCCCATCATTGTTACATCAAGATCACCTCTCCAAGGTACT
 TCAAAGGCTCATCAAGTCCCGAGGAAAGTCTCAGTCCAAACACCTCAATGTCCAATAGCGGCTCGGAA
 AAGCTGGCACAGTGCSCCCTGAAATGTTTACATCATCCTGGATGAGAACAATTGGAGGATGCCTGCG
 AGCATCTGGCGGAGTACTTGAAGCCTATTGGAAGGCCACACACCCGCCAGCAGCACGCCACCCATCC
 GCTGCTGAACCGCACCATGGCTACCGCAGCCCTGGCTGCCAGCCCTGCCCTGTCTCCAACCTCCAGGTA
 CAGGTGCTCACCTCGCTCAGGAGAACTCGGCTTCTGGGGCGGGCTGGAGTCTCACAGCGGGGAGT
 TGGTGCCCGAGGAGCAGGAACATGCCATG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC217910 representing NM_199247
 Red=Cloning site Green=Tags(s)

MVQKTSMSRGPYPSPQEIPEMEVDPSPQKYSKRKGRFKRSDGSTSSDSTSNSFVVRQGSAESYTSRPSDS
 DVSLIEDREALRKEAERQALAEKAKTKPVAFVVRTNVGYNPSGDEVVQGVAITFEPKDFLHIKEY
 NNDWWIGRLVKEGCEVGFIPSPVKLDSLRLLEQKLRQNLGSSKSGDNSSSLGDVVTGTRRPTPPASG
 NEMTNLAFELDPLEEEEEAEELGEQSGSAKTSVSSVTPPPHGRIPFFKKTEHVPPYDVVPSMRPIILV
 GPSLKGVEVTDMMQKALFDLKHFRFDGRISITRVTADISLAKRSVLLNPSKHIIERSNTRSSLAEVQSE
 IERIFELARTLQLVALDADTINHPAQLSKTSLAPIIVYIKITSPKVLQRLIKSRGKSQSKHLNVQIAASE
 KLAQCPEMFDIILDENQLEDACEHLAEYLEAYWKATHPPSSTPPNLLNRTMATAALAASPAPVSNLQV
 QVLTSLRRNLGFWGGLESSQRGSVVPQEQEHAM

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6120_d04.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_199247

ORF Size: 1569 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).

- 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_199247.3](#)

RefSeq Size: 1847 bp

RefSeq ORF: 1572 bp

Locus ID: 782

UniProt ID: [Q02641](#)

Cytogenetics: 17q12

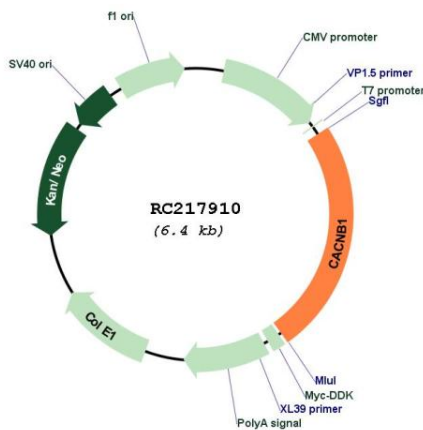
Protein Families: Druggable Genome, Ion Channels: Other

Protein Pathways: Arrhythmogenic right ventricular cardiomyopathy (ARVC), Cardiac muscle contraction, Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM), MAPK signaling pathway

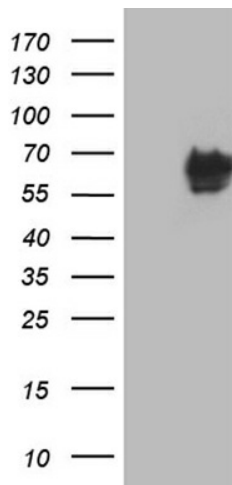
MW: 57.7 kDa

Gene Summary: The protein encoded by this gene belongs to the calcium channel beta subunit family. It plays an important role in the calcium channel by modulating G protein inhibition, increasing peak calcium current, controlling the alpha-1 subunit membrane targeting and shifting the voltage dependence of activation and inactivation. Alternative splicing occurs at this locus and three transcript variants encoding three distinct isoforms have been identified. [provided by RefSeq, Jul 2008]

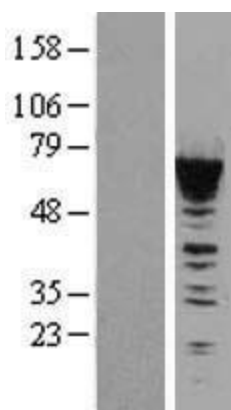
Product images:



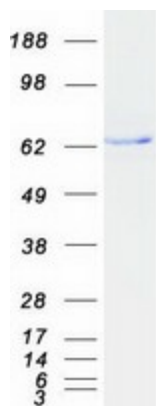
Circular map for RC217910



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CACNB1 (Cat# RC217910, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CACNB1 (1:2000) (Cat# [TA809369]). Positive lysates [LY403703] (100ug) and [LC403703] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY403703]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC217910 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CACNB1 protein (Cat# [TP317910]). The protein was produced from HEK293T cells transfected with CACNB1 cDNA clone (Cat# RC217910) using MegaTran 2.0 (Cat# [TT210002]).