

## Product datasheet for **RC213262**

### **CACNB4 (NM\_001005746) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CACNB4 (NM_001005746) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CACNB4
Synonyms:	CAB4; CACNLB4; EA5; EIG9; EJM; EJM4; EJM6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC213262 representing NM\_001005746  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGATGTGGTGGCCGAGGCACCAACCCGGAGGAGCAGGTTGAAAAGATCCGATGGCAGCACCCTT  
 CGACCAGCTTCATCCTCAGACAGGGTTCAGCGGATTCCTACACAAGCAGGCCGTCTGACTCCGATGTCTC  
 TTTGGAAGAGGACCGGAAGCAATTCGACAGGAGAGAGAAGCAAGCAGCTATCCAGCTTGAGAGAGCA  
 AAGTCCAAACCTGTAGCATTTGCCGTGAAGACAAATGTGAGCTACTGCGGCGCCCTGGACGAGGATGTGC  
 CTGTTCCAAGCACAGCTATCTCCTTTGATGCTAAAGACTTTCTACATATTAAGAGAAAATAAACAATGA  
 TTGGTGGATAGGAAGGCTGGTGAAGAGGGCTGTGAAATTGGCTTCAATCCAAGTCCACTCAGATTGGAG  
 AACATACGGATCCAGCAAGAACAAAAAGAGGACGTTTTTCACGGAGGAAATCAAGTGGAAATCTTCTT  
 CAAGTCTTGGAGAAATGGTATCTGGGACATTCCGAGCAACTCCCACATCAACAGCAAAACAGAAGCAAAA  
 AGTGACGGAGCACATTCTCCTTACGATGTTGTACCGTCAATGCGTCCGGTGGTGTAGTGGGGCCGTCA  
 CTGAAAGGTTACGAGGTAAACAGACATGATGCAGAAAGCCCTCTTTGATTTCTGAAAGCACAGTTTGATG  
 GGAGGATTTCAATAACGAGAGTGACAGCTGACATTTCTTCTTGGTAAAGAGGCTGTGCTAAATAATCCAG  
 CAAGAGAGCAATAATTGAACGTTTGAACACCCGGTCCAGCTTAGCGGAAGTACAAAGTGAATTTGAAAGA  
 ATCTTTGAGTTGGCAAGATCTTTGCAACTGGTTGTTCTTGATGCAGACACCATCAATCACCAGCACAAAC  
 TTATAAAGACTTCCTTAGCACAATTATTGTTTCATGTAAGTCTCATCTCCAAAGGTTTTACAGCGGTT  
 GATTAATCTAGAGGAAAGTCAAAAGTAAACACTTGAATGTTCAACTGGTGGCAGCTGATAAATTGCA  
 CAATGCCCCCAGAAATGTTGATGTTATATTGGATGAAAATCAGCTTGAGGATGCATGTGAACATCTAG  
 GGGAGTACCTGGAGGCGTACTGGCGTGCCACCCACACAACCAAGTGCACACCCATGACCCCGCTGCTGGG  
 AAGGAATTTGGGCTCCACGGCACTCTACCATATCCACAGCAATTTCTGGGTTACAGAGTCAAGCAATG  
 AGGCACAGCAACCACTCCACAGAGAACTCTCAATTGAAAGACGAAGTCTAATGACCTCTGATGAAAT  
 ATCACAATGAAAGGGCTCGGAAGAGTAGGAACCGCTTGCTTCCAGTTCTCAGCATAGCCGAGATCATT  
 CCCTCTTGTGGAAGAAGATTACCCTGACTCATAACCAGGACTTACAACCCCATAGGAACCGAGGATCA  
 CCTGGGGATATAGCCATGACTCCCGACATAGGCTT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC213262 representing NM\_001005746  
 Red=Cloning site Green=Tags(s)

MDVVARGTTTTRRSRLKRS DGSTTSTSFILRQGSADSYTSRPSDSVLSLEEDREAIRQEREQQAIIQLERA  
 KSKPVAFAVKTNVSYCGALDEDVVPVSTAI SFDAKDFLHIKEKYNNDDWWIGRLVKEGCEIGFIPSPRLRLE  
 NIRIQEQKRGRFHGGKSSGNSSSLGEMVSGTFRATPTSTAKQKQKVTEHIPPYDVVPSMRPVVLVGPS  
 LKGYEVTDMMQKALFDLKHFRDGRISITRVTADISLAKRSVLNPNKRAI IERSNTRSSLAEVQSEIER  
 IFELARSLQLVVL DADTINHPAQLIKTSLAPIIVHVKVS SPKVLQRLIKSRGKSQSKHLNVQLVAADKLA  
 QCPPEMFDVILDENQLEDACEHLGEYLEAYWRATHHTTSSPTMPLLGRNLGSTALLSPYPTAISGLQSQRM  
 RHSNHSTENSP IERRSLMTSDENYHNERARKSRNRLSSSSQHSRDHYPLVEEDYPPDSYQDTYKPHRNRGS  
 PGGYSHDSRHRL

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8063\\_g12.zip](https://cdn.origene.com/chromatograms/mk8063_g12.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_001005746

**ORF Size:** 1506 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\\_001005746.4](#)

**RefSeq Size:** 3062 bp

**RefSeq ORF:** 1509 bp

**Locus ID:** 785

**UniProt ID:** [O00305](#)

**Cytogenetics:** 2q23.3

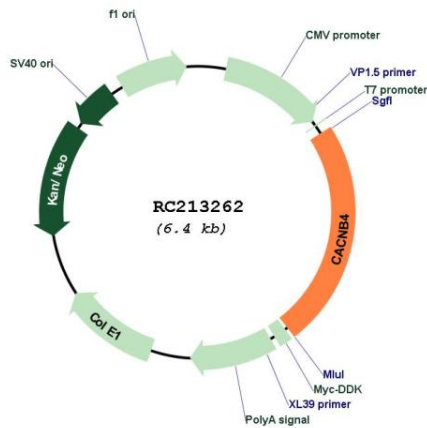
**Protein Families:** Druggable Genome, Ion Channels: Other

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

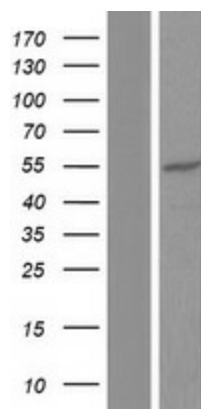
**MW:** 56.2 kDa

**Gene Summary:** This gene encodes a member of the beta subunit family of voltage-dependent calcium channel complex proteins. 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. The protein encoded by this locus plays an important role in calcium channel function 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. Certain mutations in this gene have been associated with idiopathic generalized epilepsy (IGE), juvenile myoclonic epilepsy (JME), and episodic ataxia, type 5. [provided by RefSeq, Aug 2016]

**Product images:**



Circular map for RC213262



Western blot validation of overexpression lysate (Cat# [LY423646]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213262 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).