

## Product datasheet for **RG210440**

### **CACNB4 (NM\_000726) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	CACNB4 (NM_000726) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CACNB4
Synonyms:	CAB4; CACNLB4; EA5; EIG9; EJM; EJM4; EJM6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG210440 representing NM\_000726  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCCTCCTCCTACGCCAAGAACGGGACCGCGGACGGCCGCACTCCCCACCTCGCAGGTGGCC  
 GAGGCACCACAACCCGGAGGAGCAGTTGAAAAGATCCGATGGCAGCACCACTTCGACCAGCTTCATCCT  
 CAGACAGGGTTCAGCGGATTCCTACACAAGCAGCCGTCTGACTCCGATGTCTTTTGAAGAGGACCGG  
 GAAGCAATTCGACAGGAGAGAGAACAGCAAGCAGCTATCCAGCTTGAGAGAGCAAAGTCCAAACCTGTAG  
 CATTTGCCGTGAAGACAAATGTGAGCTACTGCGGCGCCCTGGACGAGGATGTGCCTGTTCCAAGCACAGC  
 TATCTCCTTTGATGCTAAAGACTTTCTACATATTAAGAGAAAATAACAATGATTGGTGGATAGGAAGG  
 CTGGTAAAGAGGGCTGTGAAATGGCTTCATTCCAAGTCCACTCAGATTGGAGAACATACGGATCCAGC  
 AAGAACAAAAAGAGGACGTTTTACGGAGGGAAATCAAGTGAAATCTTCTTCAAGTCTTGAGAAAT  
 GGTATCTGGGACATTCGAGCAACTCCACATCAACAGCAAAACAGAAGCAAAAAGTGACGGAGCACATT  
 CCTCCTTACGATGTTGTACCGTCAATGCGTCCGGTGGTGTAGTGGGGCCGTCACTGAAAGGTTACGAGG  
 TAACAGACATGATGCAGAAAGCCCTCTTTGATTCCTGAAGCACAGGTTTGTGGAGGATTTCAATAAC  
 GAGAGTGACAGCTGACATTTCTTGTAAAGAGGTCTGTCTAAATAATCCCAGCAAGAGAGCAATAATT  
 GAACGTTCCGAACCCCGTCCAGCTTAGCGGAAGTACAAAGTAAATGAAAGAAATCTTTGAGTTGGCAA  
 GATCTTTGCAACTGGTTGTTCTTGTGACAGACACCATCAATCACCCAGCACAACTATAAAGACTTCCTT  
 AGCACCAATTATTGTTCAATGAAAAGTCTCATCTCAAAGGTTTTACAGCGTTGATTAATCTAGAGGA  
 AAGTCACAAAGTAAACACTTGAATGTTCAACTGGTGGCAGCTGATAAACTGCACAATGCCCCCAGAAA  
 GTTTTGTGTTATATTGGATGAAAATCAGCTTGAGGATGCATGTAACATCTAGGGGAGTACCTGGAGGC  
 GTACTGGCGTGCCACCCACACAACCAGTAGCACACCCATGACCCCGCTGCTGGGAAGGAATTTGGGCTCC  
 ACGGCACTCTACCATATCCACAGCAATTTCTGGTTACAGAGTCAGCGAATGAGGCACAGCAACCACT  
 CCACAGAGAACTCTCAATTGAAAGACGAAGTCTAATGACCTCTGATGAAAATTATCACAATGAAAGGGC  
 TCGGAAGAGTAGGAACCGCTTGTCTTCCAGTTCTCAGCATAGCCGAGATCATTACCCTCTGTGGAAGAA  
 GATTACCCTGACTCATACCAGGACACTTACAACCCCATAGGAACCGAGGATCACCTGGGGGATATAGCC  
 ATGACTCCCGACATAGGCTT

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>RG210440 representing NM\_000726  
 Red=Cloning site Green=Tags(s)

MSSSSYAKNGTADGPHSPTSQVARGTTTRRSRLKRS DGSTTSTSFILRQGSADSYTSRPSDSVLSLEEDR  
 EAIRQEREQAAIQLERAKSKPVFAVKTNVSYCGALDEDVVPVSTAI SFDKDFLHIKEKYNDWWIGR  
 LVKEGCEIGFIPSPLRLENIRIQEQKRGRFHGKSSGNSSSLGEMVSGTFRATPTSTAKQKQKVTETI  
 PPDYVVPVSMRPVVLVGPVSLKGYEVTMMQKALFDFLKHFRDGRISITRVTDISLAKRSVLLNPSKRAII  
 ERSNTRSSLAEVQSEIERIFELARSLQLVVLADDTINHPAQLIKTSLAPIIVHVKVSSPKVLQRLIKSRG  
 KSQSKHLNVQLVAADKLAQCPEMFDVILDENQLEDACEHLGEYLEAYWRATHHTTSTPMTPLLGRNLGS  
 TALSPYPTAISGLQSRMRHSNHSTENSPIERRSLMTSDENYHNERARKSRNRLSSSSQHSRDHYPLVEE  
 DYPDSYQDTYKPHRNRGSPGGYSHDSRHRL

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_000726

**ORF Size:** 1560 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\\_000726.5](#)

**RefSeq Size:** 3079 bp

**RefSeq ORF:** 1563 bp

**Locus ID:** 785

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

**Cytogenetics:** 2q23.3

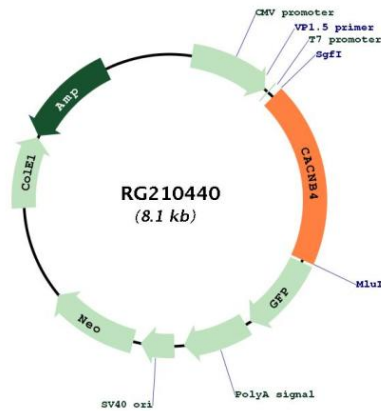
**Domains:** Ca\_channel\_B, SH3, GuKc

**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 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 RG210440