

Product datasheet for **RG221164**

CACNB4 (NM_001005747) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNB4 (NM_001005747) 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:

>RG221164 representing NM_001005747
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGTATGACAATTTGTACCTGCATGGAATTGAAGACTCGGAGGCTGGTTCAGCGATTCTACACAAGCA
 GGCGTCTGACTCCGATGTCTTTTGAAGAGGACCGGGAAGCAATTCGACAGGAGAGAGAACAGCAAGC
 AGCTATCCAGCTTGAGAGAGCAAAGTCCAAACCTGTAGCATTGCGGTGAAGACAATGTGAGCTACTGC
 GGCGCCCTGGACGAGGATGTGCCTGTTCCAAGCACAGCTATCTCCTTTGATGCTAAAGACTTTCTACATA
 TTAAGAGAAATATAACAATGATTGGTGGATAGGAAGGCTGGTGAAGAGGGCTGTGAAATTGGCTTCAT
 TCCAAGTCCACTCAGATTGGAGAACATACGGATCCAGCAAGAACAAAAAGAGGACGTTTTCCACGGAGGG
 AAATCAAGTGAAATTCTTCTTCAAGTCTGGAGAAATGGTATCTGGGACATTCGAGCAACTCCCACAT
 CAACAGCAAAACAGAAGCAAAAAGTGACGGAGCACATTCCTCCTACGATGTTGTACCGTCAATGCGTCC
 GGTGGTGTAGTGGGGCCGTCACTGAAAGTTACGAGGTAACAGACATGATGCAGAAAGCCCTCTTTGAT
 TTCTGAAAGCACAGGTTTGTATGGGAGGATTTCAATAACGAGAGTGACAGCTGACATTTCTCTTGCTAAGA
 GGTCTGTCTAAATAATCCCAGCAAGAGAGCAATAATTGAACGTTGCAACACCCGGTCCAGCTTAGCGGA
 AGTACAAAGTGAAATTGAAAGAATCTTTGAGTTGGCAAGATCTTTGCAACTGGTTGTTCTTGATGCAGAC
 ACCATCAATCACCCAGCACAACTTATAAAGACTTCCTTAGCACCATTATTGTTTCATGAAAAGTCTCAT
 CTCCAAAGGTTTTACAGCGGTTGATTAATCTAGAGGAAAGTACAAAAGTAAACACTGAAATGTTCAACT
 GGTGGCAGCTGATAAAGTGCACAATGCCCCCAGAAATGTTTGTATATTGGATGAAAATCAGCTT
 GAGGATGCATGTAACATCTAGGGGAGTACCTGGAGGCGTACTGGCGTCCACCCACACAACCAGTAGCA
 CACCCATGACCCCGCTGCTGGGAAGGAATTTGGGCTCCACGGCACTCTCACCATATCCACAGCAATTC
 TGGGTTACAGAGTCAGCGAATGAGGCACAGCAACCACTCCACAGAGAAGTCTCCAATTGAAAGACGAAGT
 CTAATGACCTCTGATGAAAATTATCACAATGAAAGGGCTCGGAAGAGTAGGAACCGCTTGTCTTCCAGTT
 CTCAGCATAGCCGAGATCATTACCCTCTGTGGAAGAAGATTACCCTGACTCATAACCAGGACACTTACAA
 ACCCCATAGGAACCGAGGATCACCTGGGGGATATAGCCATGACTCCCGACATAGGCTT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG221164 representing NM_001005747
 Red=Cloning site Green=Tags(s)

MYDNLYLHGIEDSEAGSADSYTSRPSDSVSDVLEEDREAIRQEREQQAIIQLERAKSKPVAFVKNVSYC
 GALDEDVVPVSTAI SFDKDFLHIKEKYNDWWIGRLVKEGCEIGFIPSPRLLENIRIQEQKRGRFHGG
 KSSGNSSSSLGEMVSGTFRATPTSTAKQKQVTEHIPPYDVVPSMRPVVLVGPVSLKGYEVTMMQKALFD
 FLKHRFDGRISITRVADISLAKRSVLNPNPKRAI IERSNTRSSLAEVQSEIERIFELARSLQLVVLDDAD
 TINHPAQLIKTSLAPIIVHVKVSSPKVLQRLIKSRGKSQSKHLNVQLVAADKLAQCPPEMFDVILDENQL
 EDACEHLGEYLEAYWRATHHTSSPTMPLLRNLGSTALLSPYPTAISGLQSRMRHSNHSTENSP IERRS
 LMTSDENYHNERARKSRNRLSSSSQHSRDHYPLVEEDYPDSYQDTYKPHRNRGSPGGYSHDSRHRL

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-Mlul

OTI Disclaimer:	<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 custsupport@origene.com 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. More info</p>
OTI Annotation:	<p>This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.</p>
Components:	<p>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).</p>
Reconstitution Method:	<ol style="list-style-type: none">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_001005747.4
RefSeq Size:	3185 bp
RefSeq ORF:	1461 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

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]