

Product datasheet for RC217052

CACNA2D4 (NM_172364) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CACNA2D4 (NM_172364) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CACNA2D4
Synonyms:	RCD4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC217052 representing NM_172364 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGTCTGTGGCTGCTCTGCCCTCCTTCCCCTCCCCAACCCAGGCCACCATGCCTGCAACTCCCAACT
TCCTCGAAACCCAGCTCCAGCAGCCGCTGGATTCCCCTCCAGCCAATGCCCGTGGCCTGGGCCTTTGT
GCAGAAGACCTCGGCCCTCCTGTGGCTGCTGCTTAGGCACCTCCCTGTCCCCTGCGTGGGACAGGCC
AAGATTCCTCTGAAACAGTGAAGCTATGGCTGACACCTTCGGCGGGGACCTGTATAACTGTGACCA
AATACTCAGGCTCTCTTTGCTGCAGAAGAAGTACAAGGATGTGGAGTCCAGTCTGAAGATCGAGGAGT
GGATGGCTTGGAGCTGGTGAAGTCTCAGAGGACATGGAGAACATGCTGCGGAGGAAAGTTCGAGGCC
GTCCAGAATCTGGTGAAGCTGCCGAGGAGGCCGACCTGAACCACGAATCAATGAATCCCTGGTGTTCG
ACTATTAACTCGGTCCTGATCAACGAGAGGGACGAGAAGGGCAACTTCGTTGGAGCTGGGCGCCGAGTT
CCTCCTGGAGTCCAATGCTCACTTCAGCAACCTGCCGGTGAACACCTCCATCAGCAGCGTGCAGTGCCC
ACCAACGTGTACAACAAGACCCAGATATTTAAATGGAGTCTACATGTCTGAAGCCTTGAATGTGTCT
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GATCTATCCAGGTATAAAATGGACACCTGATGAGAATGGAGTCACTACTTTTACTGCGCAAAACCGCGC
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GACCGAGACAATCGAGAGCATTTCAAAGTCTGGTGGAGGAGTTGATGGTCAAAGGTGTGGGGTCTGG
ACCAAGCCCTGAGAGAAGCCTTCCAGATCCTGAAGCAGTTCCAAGAGGCCAAGCAAGGAAGCCTCTGCAA
CCAGGCCATCATGCTCATCAGCGACGGCGCCGTGGAGGACTACGAGCCGGTGTGAGAAGTAACTGG
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GGAATACCTGCAGTGCTCAGCCGCCCATGGTATCAACCACGACCACGACATCATCTGGACAGAGGCC



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TACATGGACAGCAAGCTCCTCAGCTCGCAGGCTCAGAGCCTGACTGCTCACCCTGTGGCCATGCCAG
TCTTCAGCAAGAAGAACGAAACGCGATCCCATGGCATTCTCTGGGTGTGGTGGGCTCAGATGTGGCCCT
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CCACGCCCTTCCATCCAGAGGAGAATGCCAGGACTGCGGGCGGCCTCGGACACCTCAGCCTCGCCGCC
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC217052 representing NM_172364
 Red=Cloning site Green=Tags(s)

MVCGCSALLPLPNRPTMPATPNFLANPSSSSRWIPLQMPVAWAFVQKTSALLWLLLLGTSLSPA WQA
 KIPLETVKLWADTFGGDL YNTVTKYSGSLLLQKKYKDVESL KIEEVDGLELVRKFSEDMENMLRRKVEA
 VQNLVEAAEEADLNHEFNESL VFDYYNSVLINERDEKGNFVELGAEFLLESNAHF SNL PVNTS ISSVQLP
 TNVYNKDPDILNGVYMSEALNAVFVENFQRDPTL TWQYFGSATGFFRIYPGIKWTPDENGVI TFD CRNRG
 WYIQAATSPKDIVILVDVSGSMKGLRMTIAKHTIT TILDTLGENDFVNI IAYNDYVHYIEPCFKGILVQA
 DRDNREHFKLLVEELMVKGVGVVDQALREAFQILKQFQEAKQGS LCNQA IMLISDGAVEDYEPVFEKYNW
 PDCKVRVFTYLIGREVSFADRMKIACNNKGYTQI STLADTQENVMEYLHVL SRPMVINHDHDIWTEA
 YMDSKLLSSQAQSLTLLTTVAMPVFSKKNETRSHGILLGVVGS DVALRELMKLAPRYKLG VGHYAF LNTN
 NGYILSHPDLRPLYREGKLLKPKPNYSVDLSEVEWEDQAESLRTAMINRETGTL SMDVKVPMDKGRVL
 FLTNDYFFTDISDTPFSLGVVLSRGHGEYILLGNTSVEEGL HDLLHPDLALAGDWIYCITDIDPDRKLS
 QLEAMIRFLTRKDPDLECEELVREVL FDAVVTAPMEAYWTALALNMSEESEHVVDMAFLGTRAGLLRSS
 LFGVSEKVS DRKFLTPEDEASVFTLDRFPLWYRQASEHPAGSFVFNLRWAE GPESAGEPMVVTASTAVAV
 TVDKRTAIAAAAGVQMKLEFLQRKFWAATRQCSTVDGPCTQSCEDSDLD CFVIDNNGFILISKRSRETGR
 FLGEVDGAVLTQLLSMGVFSQVTMYDYQAMCKPSSHHSAAQPLVSPIS AFLTATRWLLQELVLFLEWS
 VWGSWYDRGAEAKSVFHSHKHKKQDPLQPCDTEYPVFVYQPAIREANGIVECGPCQKV FVVQQIPNSNL
 LLLVTDPTCDCSIFPPVLQEATEVKYNASVKCDRMR SQKLRRRPSCHAFHPEENAQDCGGASDTSASPP
 LLLL PVCAWGLLPQLLR

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk8012_h03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_172364

ORF Size: 3411 bp

OTI Disclaimer: 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.

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_172364.3](#), [NP_758952.3](#)

RefSeq Size: 5343 bp

RefSeq ORF: 3414 bp

Locus ID: 93589

UniProt ID: [Q7Z3S7](#)

Cytogenetics: 12p13.33

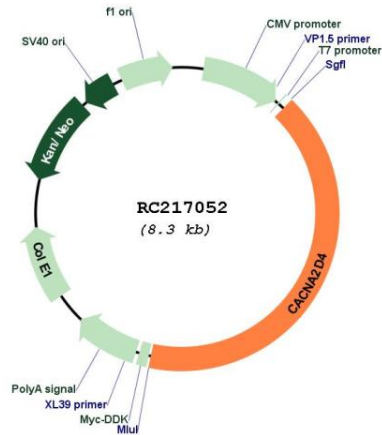
Protein Families: Druggable Genome, Ion Channels: Other

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

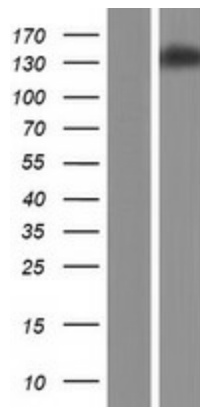
MW: 127.8 kDa

Gene Summary:

This gene encodes a member of the alpha-2/delta 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. Various versions of each of these subunits exist, either expressed from similar genes or the result of alternative splicing. Research on a highly similar protein in rabbit suggests the protein described in this record is cleaved into alpha-2 and delta subunits. Alternate transcriptional splice variants of this gene have been observed but have not been thoroughly characterized. [provided by RefSeq, Jul 2008]

Product images:


Circular map for RC217052



Western blot validation of overexpression lysate (Cat# [LY406730]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC217052 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).