

## Product datasheet for **RG222266**

### CACNG2 (NM\_006078) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CACNG2 (NM_006078) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	CACNG2
Synonyms:	MRD10
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG222266 representing NM_006078 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGGCTGTTTGATCGAGGTGTTCAAATGCTTTTAACCACCGTTGGTGCTTTCGCTGCCTTCAGCCTGA  
TGACCATAGCTGTGGAAACCGACTATTGGCTCTACTCCAGAGGGGTTTGAAGACCAAAAGTGTCAGTGA  
GAATGAAACCGCAAAAAGAACGAGGAAGTTATGACCCATTCCGGATTATGGAGAACCTGCTGCCTAGAA  
GGGAATTTCAAAGTCTGTGCAAGCAAATTGATCACTTCCAGAGGATGCAGATTACGAAGCTGACACAG  
CAGAATATTTCTCCGGGCCGTGAGGGCCTCCAGCATTTTCCCAATCCTGAGTGTGATTCTGCTTTTCAT  
GGGTGGCCTCTGCATCGCAGCCAGCGAGTTCTACAAAACCTCGACACAACATCATCCTGAGTGCCGGCATC  
TTCTTCGTGTCTGAGGTCTGAGTAACATCATTGGCATCATAGTGTACATATCTGCCAATGCCGGAGACC  
CCTCCAAGAGCGACTCCAAAAAGAATAGTTACTCATAACGGCTGGTCTTCTACTTCGGGGCCCTGTCTT  
CATCATCGCCGAGATGGTCGGGGTGTGGCGGTGCACATGTTTATCGACCGGCACAAACAGCTGCGGGCC  
ACGGCCCGCGCCACGGACTACCTCCAGGCCTTGCCATCACCCGCATCCCAGCTACCGTACCGTACC  
AGCGCCGAGCCGCTCCAGCTCGCGCTCCACGGAGCCCTCACACTCCAGGGACGCTCCCCGTGGGCAT  
CAAGGGCTTCAACACCTGCCGTCCACGGAGATCTCCATGTACACGCTCAGCAGGGACCCCTGAAGGCC  
GCCACCAGCCCACGCCACCTACAACCTCCGACAGGGATAACAGCTTCTCCAGTTTCAACAATGTATCC  
AGAAGGAGAACAAGGACTCTCTCACTCCAACACAGCCAACCGCCGGACCACCCCGTA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG222266 representing NM\_006078  
 Red=Cloning site Green=Tags(s)

MGLFDRGVQMLLTTVGAFAAFSLMTIAVGTDYWLYSRGVCKTKSVSENETSKKNEEVMTHSGLWRTCCLE  
 GNFKGLCKQIDHFPEDADYEADTAEYFLRAVRASSIFPILSVILLFMGGLCIAASEFYKTRHNIILSAGI  
 FFVSAGLSNIIGIIVYISANAGDPSKSDSKKNSYSYGWSFYFGALSFIIAEMVGLAVHMFIDRHKQLRA  
 TARATDYLQASAITRIPSYRYRYQRRSRSSRSTEPHSRSDASPVGIKGFNTLPSTEISMYTLSRDPLKA  
 ATTPATYNSDRDNSFLQVHNCIQKENKDSLHSNTANRRRTPV

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_006078

**ORF Size:** 969 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\\_006078.5](#)

**RefSeq Size:** 1548 bp

**RefSeq ORF:** 972 bp

**Locus ID:** 10369

**UniProt ID:** [Q9Y698](#)

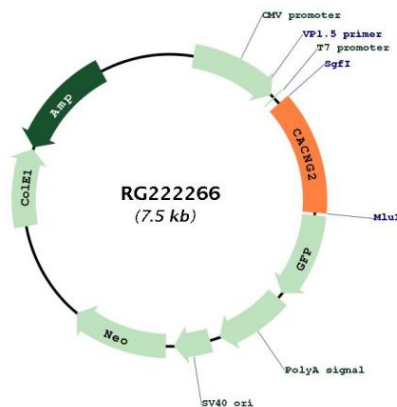
**Cytogenetics:** 22q12.3

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

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

**Gene Summary:** The protein encoded by this gene is a type I transmembrane AMPA receptor regulatory protein (TARP). TARPs regulate both trafficking and channel gating of the AMPA receptors. The AMPA subtype of ionotropic glutamate receptors are ligand gated ion channels that are typically activated by glutamate released from presynaptic neuron terminals and mediate fast neurotransmission in excitatory synapses. TARPs thus play an important role in synaptic plasticity, learning and memory. Mutations in this gene cause an autosomal dominant form of cognitive disability. [provided by RefSeq, Jul 2017]

### Product images:



Circular map for RG222266