

## Product datasheet for **RC212932**

### **KCNQ2 (NM\_172107) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	KCNQ2 (NM_172107) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	KCNQ2
Synonyms:	BFNC; DEE7; EBN; EBN1; ENB1; HNSPC; KCNA11; KV7.2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC212932 representing NM\_172107  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGTGCAGAAGTCGCGCAACGGCGGCGTATACCCGGCCGAGCGGGGAGAAGAAGCTGAAGTGGGCT  
 TCGTGGGGCTGGACCCCGCGCGCCGACTCCACCCGGGACGGGGCGCTGCTGATCGCCGGCTCCGAGGC  
 CCCCAAGCGCGGAGCATCCTCAGCAAACCTCGCGCGGGCGCGGGGCGCCGGGAAGCCCCCAAGCGC  
 AACGCCTTCTACCGCAAGCTGCAGAATTTCTCTACAACGTGCTGGAGCGGCCGCGCGGCTGGCGTTCA  
 TCTACCACGCCTACGTGTTCTCTGGTTTTCTCTGCCTCGTGTGTCTGTGTTTTCCACCATCAAGGA  
 GTATGAGAAGAGCTCGGAGGGGGCCCTACATCCTGAAATCGTACTATCGTGGTGTGGCGTGGAG  
 TACTTCGTGCGGATCTGGGCCGAGGCTGCTGCTGCCGGTACCGTGGCTGGAGGGGGCGGCTCAAGTTG  
 CCCGAAACCGTTCTGTGTGATTGACATCATGGTGTCTATCGCTCCATTGCGGTGCTGGCCGCGGCTC  
 CCAGGGCAACGTCTTTGCCACATCTGCGCTCCGGAGCCTGCGCTTCTGCAGATTCTGCGGATGATCCGC  
 ATGGACCGGGCGGGAGGCACCTGGAAGCTGCTGGGCTCTGTGGTCTATGCCACAGCAAGGAGCTGGTCA  
 CTGCCTGGTACATCGGCTTCTTTGTCTCATCCTGGCCTCGTTCCTGGTGTACTTGGCAGAGAAGGGGA  
 GAACGACCACTTTGACACCTACGCGGATGCACTCTGGTGGGGCTGATCACGCTGACCACCATTTGGCTAC  
 GGGGACAAGTACCCCGAGCCTGGAACGGCAGGCTCCTTGGCGCAACCTTACCCCTCATCGGTGTCTCT  
 TCTTCGCGCTGCCTGCAGGCATCTTGGGTTCTGGGTTTGCCTGAAGGTTCAAGGAGCAGCACAGGCAGAA  
 GCATTTGAGAAGAGGCGGAACCCGGCAGCAGGCTGATCCAGTCGGCTGGAGATTCTACGCCACCAAC  
 CTCTCGCGCACAGACCTGCATCCACGTGGCAGTACTACGAGCGAACCGTCAACCGTCCCATGTACAGTT  
 CGCAAACCTCAAACCTACGGGGCTCCAGACTTATCCCCCGCTGAACAGCTGGAGTCTGAGGAACCT  
 CAAGAGTAAATCTGGACTCGCTTTCAGGAAGGACCCCGCGGAGCCGCTCCAAGTAAAGGCAGCCCG  
 TGCAGAGGGCCCTGTGTGGATGCTGCCCGGACGCTCTAGCCAGAAGGTGAGTTTGAAGATCGTGTCT  
 TCTCCAGCCCGGAGGCTGGTGCAGGGGAAGGGTCCCGCAGGCCAGACTGTGAGGCGCTCACC  
 CAGCGCCGACCAGAGCCTCGAGGACAGCCCGCAAGGTGCCAAGAGCTGGAGCTTCGGGGACCGCAGC  
 CGGGCACGCCAGGCTTCCGCATCAAGGGTCCCGCTCACGGCAGAACTCAGAAGAAGCAAGCCTCCCCG  
 GAGAGGACATTGTGGATGACAAGAGCTGCCCTGCGAGTTTGTGACCGAGGACCTGACCCGGGCTCAA  
 AGTCAGCATCAGAGCCGTGTGTGTATGCGTTTCTGGTGTCCAAGCGGAAGTTCAAGGAGAGCCTGCGG  
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 ACGTGGGCTGGGCCGGGCCAGGAAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC212932 representing NM\_172107  
 Red=Cloning site Green=Tags(s)

MVQKSRNGGVYPGPSGEKKLKVGFVGLDPGAPDSTRDGALLIAGSEAPKRGSIKSKPRAGGAGAGKPPKR  
 NAFYRKLQNFLYNVLERPRGWAFIYHAYVLLVFSCLVLSVFSTIKEYKSSEGALYILEIVTIVVFGVE  
 YFVRIWAAGCCCRYRGRGLKFARKPFCVIDIMVLIASIAVLAAGSQGNVFATSALRSLRFLQILRMIR  
 MDRRGGTWKLKLSVVYAHSKELVTAWYIGFLCLILASFLVYLAEKGENDHFDTYADALWWGLITLTIGY  
 GDKYPQTWNGRLLAATFTLIGVSFFALPAGILGSGFALKVQEQHRQKHFEKRRNPAAGLIQSAWRFYATN  
 LSRTDLHSTWQYYERTVTVPMYSSQTQTYGASRLIPPLNQLLELLRNLKSKSGLAFRKPDPPEPSPKSGP  
 CRGPLCGCCPGRSSQKVLKDRVFSRPRGVAAGKGGSPQAQTVRRSPSADQSLEDSKVPKSWSFGDRS  
 RARQAFRIKGAASRQNSEEASLPGEDIVDDKSCPCEFTEDLTPGLKVSIRAVCMRFLVSKRKFKESLR  
 PYDVMVDIEQYSAGHLDMLSRIKSLQSRVDQIVGRGPAITDKDRTKGPAEELPEDPSMMGRLGKVEKQV  
 LSMEKKLDFLVNIYMRMGIPPTETEAYFKAKEPEPAPPYHSPEDSREHVDRHGCIVKIVRSSSSTGQKN  
 FSAPPAAPPVQCPPSTSWQPQSHPRQGHGTSVPGDHGSLVRIPPPPAHERSL SAYGGNRAMFLRQED  
 TPGCRPPEGNLRSDTSSISIPVDHEELERSFSGFSISQSKENLDALNSCYAAVAPCAKVRPYIAEGESD  
 TSDSLCTPCGPPRSATGEGPFDVGVWAGPRK

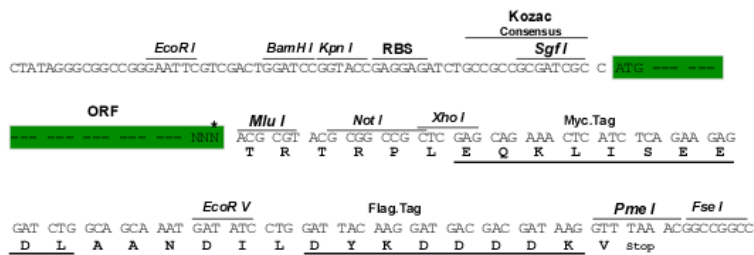
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6097\\_f02.zip](https://cdn.origene.com/chromatograms/mk6097_f02.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

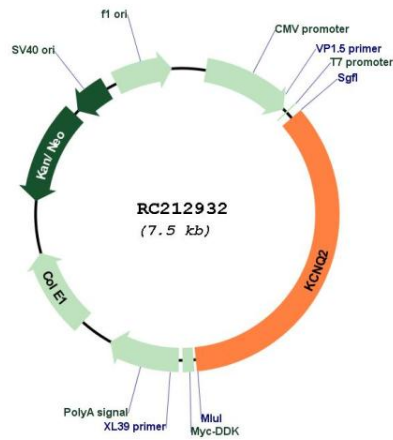
Cloning sites used for ORF Shuttling:



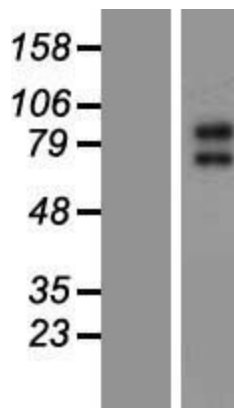
\* The last codon before the Stop codon of the ORF

<b>ACCN:</b>	NM_172107
<b>ORF Size:</b>	2616 bp
<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_172107.4</a>
<b>RefSeq Size:</b>	3251 bp
<b>RefSeq ORF:</b>	2619 bp
<b>Locus ID:</b>	3785
<b>UniProt ID:</b>	<a href="#">O43526</a>
<b>Cytogenetics:</b>	20q13.33
<b>Protein Families:</b>	Druggable Genome, Ion Channels: Potassium, Transmembrane
<b>MW:</b>	95.7 kDa
<b>Gene Summary:</b>	The M channel is a slowly activating and deactivating potassium channel that plays a critical role in the regulation of neuronal excitability. The M channel is formed by the association of the protein encoded by this gene and a related protein encoded by the KCNQ3 gene, both integral membrane proteins. M channel currents are inhibited by M1 muscarinic acetylcholine receptors and activated by retigabine, a novel anti-convulsant drug. Defects in this gene are a cause of benign familial neonatal convulsions type 1 (BFNC), also known as epilepsy, benign neonatal type 1 (EBN1). At least five transcript variants encoding five different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Product images:



Circular map for RC212932



Western blot validation of overexpression lysate (Cat# [LY406840]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212932 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).