

Product datasheet for **RG222096**

KCNQ2 (NM_004518) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	KCNQ2 (NM_004518) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	KCNQ2
Synonyms:	BFNC; DEE7; EBN; EBN1; ENB1; HNSPC; KCNA11; KV7.2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide
Sequence:**

>RG222096 representing NM_004518
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGTGCAGAAGTCGCGCAACGGCGCGTATACCCGGCCGAGCGGGGAGAAGAAGCTGAAGTGGGCT
 TCGTGGGCTGGACCCCGCGCGCCGACTCCACCCGGGACGGGGCGCTGCTGATCGCCGCTCCGAGGC
 CCCAAGCGCGGAGCATCCTCAGCAAACCTCGCGCGGGCGCGGGGCGCCGGGAAGCCCCCAAGCGC
 AACGCCTTCTACCGCAAGCTGCAGAATTTCTCTACAACGTGCTGGAGCGGCCGCGCGGCTGGCGTTCA
 TCTACCACGCCTACGTGTTCTCTGGTTTTCTCTGCCTCGTGTGTCTGTGTTTTCCACCATCAAGGA
 GTATGAGAAGAGCTCGGAGGGGGCCCTACATCCTGAAATCGTACTATCGTGGTGTGGCGTGGAG
 TACTTCGTGCGGATCTGGGCCGAGGCTGCTGCTGCCGTACCGTGGCTGGAGGGGGCGCTCAAGTTG
 CCCGAAACCGTTCTGTGTGATTGACATCATGGTGTCTATCGCTCCATTGCGGTGCTGGCCCGGCTC
 CCAGGGCAACGTCTTTGCCACATCTGCGCTCCGAGCCTGCGCTTCTGCAGATTCTGCGGATGATCCGC
 ATGGACCGGGCGGGAGGCACCTGGAAGCTGCTGGGCTCTGTGGTCTATGCCACAGCAAGGAGCTGGTCA
 CTGCCTGGTACATCGGCTTCTTTGTCTCATCCTGGCCTCGTTCCTGGTGTACTTGGCAGAGAAGGGGA
 GAACGACCACTTTGACACCTACGCGGATGCACTCTGGTGGGGCTGATCACGCTGACCACCATTTGGCTAC
 GGGGACAAGTACCCCGAGCCTGGAACGGCAGGCTCCTTGCGGCAACCTTCAACCTCATCGGTGTCTCT
 TCTTCGCGCTGCCTGCAGGCATCTTGGGCTGGGTTTGCCTGAAGGTTCAAGGAGCAGCACAGGCGAA
 GCATTTGAGAAGAGGCGGAACCCGGCAGCAGGCTGATCCAGTCGGCTGGAGATTCTACGCCACCAAC
 CTCTCGCGCACAGACCTGCATCCAGTGGCAGTACTACGAGCGAACGGTCAACCGTCCCATGACAGAA
 TTATCCCCCGCTGAACCACTGGAGCTGCTGAGGAACCTCAAGAGTAAATCTGGACTCGCTTTCAGGAA
 GGACCCCGCCCGGAGCGTCTCCAAGCCAGAAGGTCAGTTTGAAGATCGTGTCTTCTCCAGCCCCGA
 GGCGTGGCTGCCAAGGGGAAGGGTCCCGCAGGCCAGACTGTGAGGGGTCAACCCAGCCCGACCCAGA
 GCCTCGAGGACAGCCCCAGCAAGGTGCCAAGAGCTGGAGCTTGGGGACCGCAGCCGGGACCGCCAGGC
 TTTCCGCATCAAGGGTCCCGCTCACGGCAGAAGTCAAGAAGAAGCAAGCCTCCCGGAGAGGACATTGTG
 GATGACAAGAGCTGCCCTGCGAGTTTGTGACCGAGGACTGACCCCGGGCTCAAAGTCAAGTCAAGAG
 CCGTGTGTGTATGCGGTTCTGGTGTCCAAGCGGAAGTCAAGGAGAGCCTGCGGCCCTACGACGTGAT
 GGACGTATCGAGCAGTACTCAGCCGGCCACTGGACATGCTGTCCGAATTAAGAGCCTGCAGTCCAGA
 GTGGACCAGATCGTGGGGCGGGCCAGCGATCACGGACAAGGACCGCACCAAGGGCCCGCCGAGGCGG
 AGCTGCCCGAGGACCCAGCATGATGGGACGGCTCGGGAAGGTGGAGAAGCAGGTCTTGCCATGGAGAA
 GAAGCTGGACTTCTGGTGAATATCTACATGCAGCGGATGGGCATCCCCCGACAGAGACCAGGGCTAC
 TTTGGGGCAAAGAGCCGGAGCCGGCGCCCGTACCACAGCCCGGAAGACAGCCGGGAGCATGTCGACA
 GGCACGGCTGCATTGTCAAGATCGTGGCTCCAGCAGTCCACGGGCCAGAAGAATTCTCGGCGCCCC
 GGCCGCGCCCCCTGTCCAGTGTCCGCCCTCCACCTCCTGGCAGCCACAGAGCCACCCGCGCCAGGGCCAC
 GGCACCTCCCCGTGGGGGACCAGGCTCCCTGGTGGCATCCCGCCCGCCCTGCCACGAGCGGTGCG
 TGTCCGCTACGGCGGGGCAACCGCCAGCATGGAGTTCCTGCGGCAGGAGGACACCCCGGCTGCAG
 GCCCCCCGAGGGAACTGCGGGACAGCAGCAGTCCATCTCCATCCCGTCCGTGGACACGAGGAGCTG
 GAGCGTTCTTACGCGGCTTCAAGTCTCCAGTCCAAGGAGAACCTGGATGCTCTCAACAGCTGCTACG
 CGGCCGTGGCGCTTGTGCCAAGTCAAGCCCTACATTGCGGAGGGAGAGTCAAGACCCGACTCCGACCT
 CTGTACCCCGTGCGGGCCCGCCACGCTCGGCCACCGCGAGGGTCCCTTTGGTACGTGGGCTGGGC
 GGGCCAGGAAG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

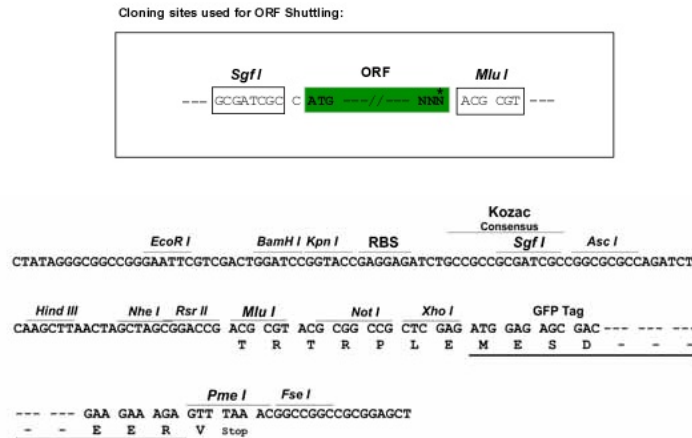
Protein Sequence: >RG222096 representing NM_004518
Red=Cloning site Green=Tags(s)

MVQKSRNGGVYPGPSGEKLLKVG FVGLDPGAPDSTRDGALLIAGSEAPKRG SILSKPRAGGAGAGKPPKR
NAFYRKLQNF LYNVLERPRGWAFIYHAYVFLLVF SCLVLSVFSTIKEYESSEGALYILEIVTIVVFGVE
YFVRIWAAGCCCR YRGWRGRLKFARKPFCVIDIMVLIASIAVLAAGSQGNVFATSALRSLRFLQILRMIR
MDRRGGT WKLLGSVVYAHSKELVTAWYIGF LCLILASFLVYLAEK GENDHFDTYADALWWGLITLTTIGY
GDKYPQTWNGRLLAATFTLIGVSFFALPAGILGSGFALKVQEQHRQKHFEKRRNPAAGLIQSAWRFYATN
LSRTDLHSTWQYYERTVTVPMYRLIPPLNQLELLRNLKSKSGLAFRKPDPPEPSPSQKVS LKDRVFSSPR
GVAAKGKGSPQAQTVRRSPSADQSLEDS PKVPSWSFGDRSRARQAFRIKGAASRQNSEEASLPGEDIV
DDKSCPCFVTEDLTPGLKVSIRAVCMRFLVSKRKFKE SLRPYDVMVIEQYSAGHL DMLSRIKSLQSR
VDQIVGRGPAITDKDRTKGPAEAE L PEDP SMMGRLGKVEKQVLSMEKKLDFLVNIYMQRMGIPPTETEAY
FGAKEPEPAPPYHSPEDSREHVDRHGCI VKIVRSSSSTGQKNFSAPPAAPPVQCPPSTSWQPQSHPRQGH
GTSPVGDHGSLVRIPPPAHERSL SAYGGGNRASMEFLRQEDTPGCRPPEGNL RDSDT SISISVDHEEL
ERSFSGFSISQSKENLDALNSCYAAVAPCAKVRPYIAEGESD TSDLCTPCGPPPRSATGEGPFGDVGWA
GPRK

TRTRPLE - GFP Tag - V

Restriction Sites: Sgfl-MluI

Cloning Scheme:



ACCN: NM_004518

ORF Size: 2532 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_004518.6](#)

RefSeq Size: 3167 bp

RefSeq ORF: 2535 bp

Locus ID: 3785

UniProt ID: [O43526](#)

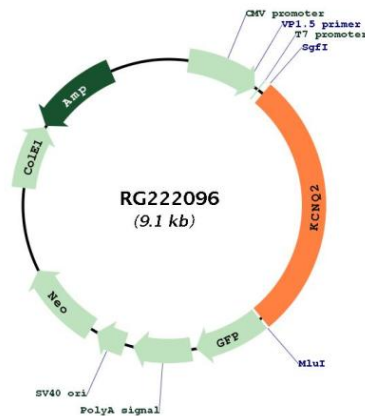
Cytogenetics: 20q13.33

Domains: KCNQ_channel, ion_trans

Protein Families: Druggable Genome, Ion Channels: Potassium, Transmembrane

Gene Summary: 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 RG222096