

Product datasheet for **RC223144**

KCNQ2 (NM_172108) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	KCNQ2 (NM_172108) 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:

>RC223144 representing NM_172108
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGTGCAGAAGTCGCGCAACGGCGCGTATACCCGGCCGAGCGGGGAGAAGAAGCTGAAGTGGGCT
 TCGTGGGCTGGACCCCGCGCGCCGACTCCACCCGGGACGGGGCGCTGCTGATCGCCGCTCCGAGGC
 CCCAAGCGCGGAGCATCCTCAGCAAACCTCGCGCGGGCGCGGGGCGCCGGGAGCCCCCAAGCGC
 AACGCCTTCTACCGCAAGCTGCAGAATTTCTCTACAACGTGCTGGAGCGGCCGCGCGGCTGGCGTTCA
 TCTACCACGCCTACGTGTTCTCTGGTTTTCTCTGCCTCGTGTGTCTGTGTTTTCCACCATCAAGGA
 GTATGAGAAGAGCTCGGAGGGGGCCCTACATCTGAAATCGTACTATCGTGGTGTGGCGTGGAG
 TACTTCGTGCGGATCTGGGCCGAGGCTGCTGCTGCCGTACCGTGGCTGGAGGGGGCGGCTCAAGTTG
 CCCGAAACCGTTCTGTGTGATTGACATCATGGTGTCTATCGCTCCATTGCGGTGCTGGCCGCGGCTC
 CCAGGGCAACGTCTTTGCCACATCTGCGCTCCGAGCCTGCGCTTCTGCAGATTCTGCGGATGATCCGC
 ATGGACCGGGCGGGAGGCACCTGGAAGCTGCTGGGCTCTGTGGTCTATGCCACAGCAAGGAGCTGGTCA
 CTGCCTGGTACATCGGCTTCTTTGTCTCATCCTGGCCTCGTTCTGGTGTACTTGGCAGAGAAGGGGA
 GAACGACCACTTTGACACCTACGCGGATGCACTCTGGTGGGGCTGATCACGCTGACCACCATTTGGCTAC
 GGGGACAAGTACCCCGAGCCTGGAACGGCAGGCTCCTTGCGGCAACCTTCAACCTCATCGGTGTCTCT
 TCTTCGCGCTGCCTGCAGGCATCTTGGGTTCTGGGTTTGCCTGAAGGTTTCAAGGAGCAGCACAGGCAGAA
 GCATTTGAGAAGAGGCGGAACCCGGCAGCAGGCTGATCCAGTCGGCTGGAGATTCTACGCCACCAAC
 CTCTCGCGCAGACCTGCATCCACGTGGCAGTACTACGAGCGAACGGTCAACCGTCCCATGTACAGTT
 CGCAAACCTCAAACCTACGGGGCTCCAGACTTATCCCCCGCTGAACAGCTGGAGCTGCGGGAACCT
 CAAGAGTAAATCTGGACTCGCTTTCAGGAAGACCCCGCGGAGCCGCTCCAAGCCCCGAGGCGGTG
 GCTGCCAAGGGGAAGGGTCCCCGAGGCCAGACTGTGAGGCGGTACCCAGCGCCGACCAGAGCCTCG
 AGGACAGCCCCAGCAAGGTGCCAAGAGCTGGAGCTTCGGGGACCGCAGCCGGGACGCCAGGCTTTCG
 CATCAAGGGTGCAGCGTACGCGCAGAACTCAGAAGCAAGCCTCCCGGAGAGGACATTGTGGATGACAAG
 AGCTGCCCTGCGAGTTTGTGACCGAGGACCTGACCCCGGGCTCAAAGTCAGCATCAGAGCCGTGTGTG
 TCATGCGGTTCTGGTGTCCAAGCGGAAGTTCAAGGAGAGCCTGCGGCCCTACGACGTGATGGACGTCAT
 CGAGCAGTACTCAGCCGGCCACCTGGACATGCTGTCCCGAATTAAGAGCCTGCAGTCCAGAGTGGACCAG
 ATCGTGGGGCGGGCCAGCGATCACGGACAAGGACCGCACCAAGGGCCCGCCGAGGCGGAGCTGCCCCG
 AGGACCCAGCATGATGGGACGGCTCGGGAAGGTGGAGAAGCAGGTCTTGTCCATGGAGAAGAAGCTGGA
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 ACGGCGGGGCAACCGCGCCAGCATGGAGTTCTGCGGCAGGAGGACACCCGGGCTGCAGGCCCGGTTCC
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 CGCCTTGTGCCAAGTACGGCCCTACATTGCGGAGGGAGAGTACAGACCCGACTCCGACCTCTGTACCCC
 GTGCGGGCCCGCCACGCTCGGCCACCGGCGAGGGTCCCTTTGGTACGTGGGCTGGGCCGGGCCAGG
 AAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC223144 representing NM_172108
 Red=Cloning site Green=Tags(s)

MVQKSRNGGVYPGPSGEKKLKVGFVGLDPGAPDSTRDGALLIAGSEAPKRGSIKSKPRAGGAGAGKPPKR
 NAFYRKLQNFLYNVLERPRGWAFIYHAYVFLVFSCLVLSVFSTIKEYESSEGALYILEIVTIVFVGV
 YFVRIWAAGCCCRYRGRGLKFARKPFCVIDIMVLIASIAVLAAGSQGNVFATSALRSLRFLQILRMIR
 MDRRGGTWKLKLSVVYAHSKELVTAWYIGFLCLILASFLVYLAEKGENDHFDTYADALWGLITLTTIGY
 GDKYPQTWNGRLLAATFTLIGVSFFALPAGILGSGFALKVQEQHRQKHFEKRRNPAAGLIQSAWRFYATN
 LSRTDLHSTWQYYERTVTVPMYSSQTQTYGASRLIPPLNQLELLRNLKSKSGLAFRKDPPPEPSPSPRGV
 AAKGKGSPPQAQTVRRSPSADQSLEDSKVPKSWSFGDRSRARQAFRIKGAASRQNSEASLPGEDIVDDK
 SCPCEFTEDLTPGLKVSIRAVCVMRFLVSKRFKESLRPYDVMVIEQYSAGHLDMLSRIKSLQSRVDQ
 IVGRGPAITDKDRTKGPAEAELEPEDPSMMGRLGKVEKQVLSMEKKLDFLVNIYMRMGIPPTETEAYFGA
 KEPEPAPPYHSPEDSREHVDRHGCIKIVRSSSTGQKNFSAPPAAPPVQCPPSTSWQPQSHPRQGHGTS
 PVGDHGLVRIPPPPAHERSL SAYGGNRASMEFLRQEDTPGCRPPEGNLRSDTSSISIPVDHEELERS
 FSGFSISQSKENLDALNSCYAAVAPCAKVRPYIAEGESDTSDDLCTPCGPPPRSATGEGPFDVGVWAGPR
 K

TRTRPLEQKLISEEDLAANDILDYKDDDDK

Restriction Sites:

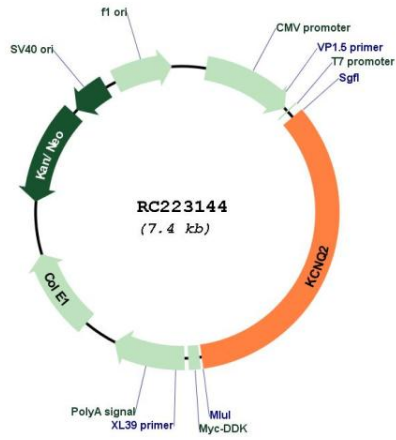
Sgfl-MluI

Cloning Scheme:



ACCN:	NM_172108
ORF Size:	2523 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:	<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_172108.5
RefSeq Size:	3158 bp
RefSeq ORF:	2526 bp
Locus ID:	3785
UniProt ID:	O43526
Cytogenetics:	20q13.33
Protein Families:	Druggable Genome, Ion Channels: Potassium, Transmembrane
MW:	92.6 kDa
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 RC223144