

## Product datasheet for **RG218643**

### KCNQ2 (NM\_172109) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	KCNQ2 (NM_172109) 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)
ORF Nucleotide Sequence:	>RG218643 representing NM_172109 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGTGCAGAAGTCGCGCAACGGCGGCGTATACCCCGGCCGAGCGGGGAGAAGAAGCTGAAGTGGGCT  
TCGTGGGGCTGGACCCCGCGCGCCGACTCCACCCGGGACGGGGCGCTGCTGATCGCCGGCTCCGAGGC  
CCCCAAGCGCGGCAGCATCCTCAGCAAACCTCGCGGGGCGCGGGCGCCGGGAAGCCCCCAAGCGC  
AACGCCTTCTACCGCAAGCTGCAGAATTCCTCTACAACGTGCTGGAGCGGCCGCGGGCTGGGCGTTCA  
TCTACCACGCCTACGTGTTCTCCTGGTTTTCTCCTGCCTCGTGTGTGTGTTTTCCACCATCAAGGA  
GTATGAGAAGAGCTCGGAGGGGGCCCTCTACATCCTGAAATCGTGACTATCGTGGTGTGGCGTGGAG  
TACTTCGTGCGGATCTGGGCCGAGGCTGCTGCTGCCGGTACCGTGGCTGGAGGGGGCGGCTCAAGTTTG  
CCCGGAAACCGTTCTGTGTGATTGACATCATGGTGTCTATCGCCTCCATTGCGGTGCTGGCCGCCGCTC  
CCAGGGCAACGTCTTTGCCACATCTGCGCTCCGGAGCCTGCGCTTCTGCAGATTCTGCGGATGATCCGC  
ATGGACCGGCGGGGAGGCACCTGGAAGCTGCTGGGCTCTGTGGTCTATGCCACAGCAAGGAGCTGGTCA  
CTGCCTGGTACATCGGCTTCCTTTGTCTCATCTGGCCTGTTCTCTGGTACTTGGCAGAGAAGGGGA  
GAACGACCACTTTGACACCTACGCGGATGCACTCTGGTGGGCGCTGATCACGCTGACCACCATTTGGCTAC  
GGGGACAAGTACCCAGACCTGGAACGGCAGGCTCCTTGGGCAACCTCACCCATCGGTGTCTCCT  
TCTTCGCGCTGCCTGACGCATCTTGGGTCTGGGTTTGCCTGAAGTTTCAGGAGCAGCACAGGCAGAA  
GCACTTTGAGAAGAGGGGAACCCGGCAGCAGGCTGATCCAGTCGCGCTGGAGATTCTACGCCACCAAC  
CTCTCGGCACAGACCTGCACTCCAGTGGCAGTACTACGAGCGAACGGTACCCTGCCATGTACAGGT  
ACCGCCGCGGGCACCTGCCACCAAGCAACTGTTTCATTTTTATTTTCCATTTGTTCT

**ACCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG218643 representing NM\_172109  
 Red=Cloning site Green=Tags(s)

MVQKSRNGGVYPGPSGEKLLKGVFVGLDPGAPDSTRDGALLIAGSEAPKRGSIKPRAGGAGAGKPPKR  
 NAFYRKLQNFLYNVLERPRGWAFIYHAYVFLLVFVSVLSTIKEYESSEGALYILEIVTIVVFGVE  
 YFVRIWAAGCCCRYRGRGLKFKARKPFCVIDIMVLIASIAVLAAGSQGNVFATSALRSLRFLQILRMIR  
 MDRRGGTWKLKLSVVYAHSKELVTAWYIGFLCLILASFLVYLAEKGENDHFDTYADALWWGLITLTTIGY  
 GDKYPQTWNGRLLAATFTLIGVSFFALPAGILGSGFALKVQEQHRQKHFEKRRNPAAGLIQSAWRFYATN  
 LSRTDLHSTWQYYERTVTVPMYRYYRRRAPATKQLFHFLFSICS

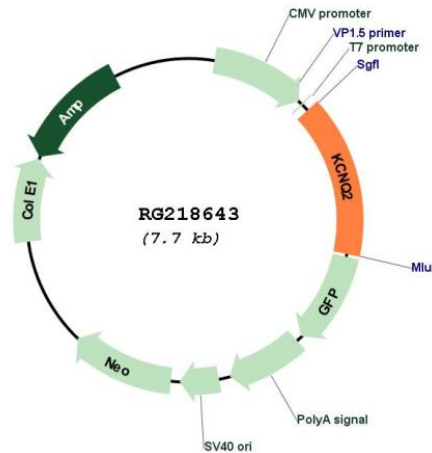
TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**



**ACCN:** NM\_172109

<b>ORF Size:</b>	1179 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>RefSeq:</b>	<a href="#">NM_172109.3</a>
<b>RefSeq Size:</b>	1425 bp
<b>RefSeq ORF:</b>	1182 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>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]