

## Product datasheet for **RG219869**

### **KCNQ1 (NM\_000218) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	KCNQ1 (NM_000218) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	KCNQ1
Synonyms:	ATFB1; ATFB3; JLNS1; KCNA8; KCNA9; Kv1.9; Kv7.1; KVLQT1; LQT; LQT1; RWS; SQT2; WRS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG219869 representing NM\_000218  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCGCGGCCCTCTCCCCGCCAGGGCCGAGAGGAAGCGCTGGGGTTGGGGCCGCTGCCAGGCGCCC  
 GCCGGGGCAGCGGGGCTGGCCAAGAAGTGCCCTTCTCGCTGGAGCTGGCGGAGGGCGGCCCGGCGGG  
 CGGCGCGCTCTACGCGCCATCGCGCCCGGCCAGGTCCCGCGCCCTGCGTCCCCGGCCGCGCCC  
 GCCGCGCCCCAGTTGCCTCCGACCTTGCCCGCGCCGCGCGGTGAGCCTAGACCCGCGCGTCTCCATCT  
 ACAGCACGCGCCCGGTGTTGGCGCGCACCCACGTCCAGGGCCGCGTCTACAACCTTCTCGAGCGTCC  
 CACCGGCTGGAATGCTTCGTTTACCACCTTCGCCGTCTTCTCATCGTCTGGTCTGCCTCATCTTCAGC  
 GTGCTGTCCACCATCGAGCAGTATGCCGCCCTGGCCACGGGGACTCTTCTGGATGGAGATCGTGTGG  
 TGGTGTCTTCGGGACGGAGTACGTGGTCCGCCTTGGTCCGCCGCTGCCGAGCAAGTACGTGGGCT  
 CTGGGGGCGGCTGCGCTTTCGCCGAAGCCATTTCCATCATCGACCTCATCGTGGTCTGGCCCTCATG  
 GTGGTCTCTGCGTGGGCTCCAAGGGGCAGGTGTTTGCCACGTGCGCCATCAGGGGCATCCGCTTCTGC  
 AGATCCTGAGGATGCTACACGTCGACCCGAGGGAGGCACCTGGAGGCTCCTGGGCTCCGTGGTCTTCAT  
 CCACCGCCAGGAGCTGATAACCACCCTGTACATCGGCTTCTGGGCTCATCTTCTCCTCGTACTTTGTG  
 TACCTGGCTGAGAAGGACGCGGTGAACGAGTACGGCCCGGTGGAGTTCGGCAGCTACGCAGATGCCTGT  
 GGTGGGGGGTGGTACAGTACACCACATCGGCTATGGGGACAAGTGGCCAGACGTGGGTGGGAAAGAC  
 CATCGCTCCTGCTTCTGTCTTTGCCATCTCCTTCTTTCGCTCCAGCGGGATTCTTGGCTCGGGG  
 TTTGCCCTGAAGGTGCAGCAGAAGCAGAGGCAGAAGCACTTCAACCGCAGATCCCGCGGCAGCCTCAC  
 TCATTAGACCGCATGGAGGTGCTATGCTGCCGAGAACCCGACTCCTCCACCTGGAAGATCATATCCG  
 GAAGGCCCGGAGCCCACTCTGCTGTCAACCCAGCCCAACCCAAGAAGTCTGTGGTAAAGAAA  
 AAAAAGTTCAAGCTGGACAAAGACAATGGGGTACTCCTGGAGAGAAGATGCTCACAGTCCCCATATCA  
 CGTGCGACCCCCAGAAGAGCGGCGGTGGACCACTTCTGTGCGACGGCTATGACAGTTCTGTAAGGAA  
 GAGCCCAACTGCTGGAAGTGAGCATGCCCATTTTCATGAGAACCAACAGCTTCGCCGAGGACCTGGAC  
 CTGGAAGGGGAGACTCTGCTGACACCCATCACCCACATCTCACAGCTGCGGGAACACCATCGGGCCACCA  
 TTAAGGCTATTGACGCATGCAGTACTTTGTGGCCAAGAAGAAATTCAGCAAGCGCGGAAGCCTTACGA  
 TGTGCGGGACGTATTGAGCAGTACTCGCAGGGCCACCTCAACCTCATGGTGCATCAAGGAGCTGCAG  
 AGGAGGCTGGACCAGTCCATTGGGAAGCCCTCACTGTTTCTCCTGCTCAGAAAAGAGCAAGGATCGCG  
 GCAGCAACACGATCGGCGCCCGCTGAACCGAGTAGAAGACAAGGTGACGCAGCTGGACCAGAGGCTGGC  
 ACTCATACCCGACATGCTTACCAGCTGCTCTCCTTGCACGGTGGCAGCACCCCGGCAGCGGCGCCCC  
 CCCAGAGAGGGGGGGGCCACATCACCCAGCCCTGCGGCAGTGGCGGCTCCGTCGACCCTGAGCTTTCC  
 TGCCAGCAACACCTGCCACCTACGAGCAGTGACCGTGCCAGGAGGGGCCCGATGAGGGGTCC

**ACGCGT**ACGCGGGCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG219869 representing NM\_000218  
 Red=Cloning site Green=Tags(s)

MAAASSPPRAERKRWGWGRLPGARRGSAGLAKKCPF SLELAEGGPAGGALYAPIAPGAPGPAPPASPAAP  
 AAPPVASDLGPRPPVSLDPRVSIYSTRRPVLRARTHVQGRVYNFLERPTGWKCFVYHFAVFLIVLVCLIFS  
 VLSTIEQYAALATGTLFWMEIVLVVFFGTEYVVRLLWSAGCRSKYVGLWGRLLRFARKPISIIDLIVVASM  
 VVLCVGSKGQVFATSAIRGIRFLQILRMLHVDQRGGTWRLLGSVVF IHRQELITTLTYIGFLGLIFSSYFV  
 YLAEKDAVNESGRVEFGSYADALWWGVVTVTTIGYGDVPTQWVGKTIASCF SVFAISFFALPAGILGSG  
 FALKVQKQKQKHFNRQIPAAASLIQTAWRCYAAENPDSSTWKIYIRKAPRSHTLLSPSPKPKKSVVVKK  
 KKFKLDKDNQVTPGEKMLTVPHITCDPPEERRLDHFSVDGYDSSVRKSPTLLEVSMPHFMRNTNSFAEDLD  
 LEGETLLTPITHISQLREHHRATIKVIRRMQYFVAKKFKQARKPYDVRDVEIQSQGHLNLMVRIKELQ  
 RRLDQSIGKPSLFI SVSEKSKDRGSNTIGARLNRVEDKVTQLDQRLALITDMLHQLLSLHGGSTPGSGGP  
 PREGGAHITQPCGSGGSVDPELFLPSNTLPTYEQLTVPRRGPDEGS

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_000218

ORF Size: 2028 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_000218.2](#), [NP\\_000209.2](#)

**RefSeq Size:** 3262 bp

**RefSeq ORF:** 2031 bp

**Locus ID:** 3784

**UniProt ID:** [P51787](#)

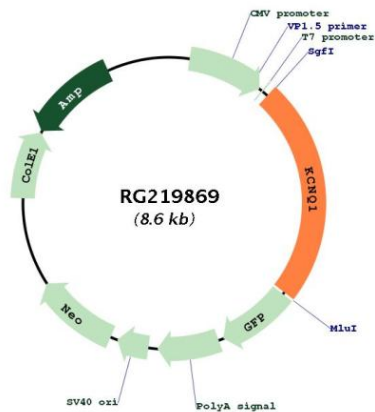
**Cytogenetics:** 11p15.5-p15.4

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

**Protein Pathways:** Vibrio cholerae infection

**Gene Summary:**

This gene encodes a voltage-gated potassium channel required for repolarization phase of the cardiac action potential. This protein can form heteromultimers with two other potassium channel proteins, KCNE1 and KCNE3. Mutations in this gene are associated with hereditary long QT syndrome 1 (also known as Romano-Ward syndrome), Jervell and Lange-Nielsen syndrome, and familial atrial fibrillation. This gene exhibits tissue-specific imprinting, with preferential expression from the maternal allele in some tissues, and biallelic expression in others. This gene is located in a region of chromosome 11 amongst other imprinted genes that are associated with Beckwith-Wiedemann syndrome (BWS), and itself has been shown to be disrupted by chromosomal rearrangements in patients with BWS. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Aug 2011]

**Product images:**


Circular map for RG219869