

Product datasheet for **RG219793**

KCNA5 (NM_002234) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	KCNA5 (NM_002234) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	KCNA5
Synonyms:	ATFB7; HCK1; HK2; HPCN1; KV1.5; PCN1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG219793 representing NM_002234
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGAGATCGCCCTGGTCCCTGGAGAACGGCGGTGCCATGACCCTCAGAGGAGCGATGAGGCCCGGG
 CAGGCTGCGGCCAGGCCACAGGGGAGAGCTCCAGTGTCCCCGACGGCTGGGCTCAGCGATGGGCCAA
 GGAGCCGGCGCCAAGGGGCGCGCGCAGAGACGCGGACTCGGGAGTGCGGCCCTGCCTCCGCTG
 CCGGACCCGGGAGTGCGGCCCTGCCTCCGCTGCCAGAGGAGCTGCCACGGCTCGACGGCCGCTCCCG
 AGGACGAGGAGGAAGAAGGCGATCCCGGCTGGGCACGGTGGAGGACCAGGCTCTGGGCACGGCTCCCT
 GCACCACGCGCGTCCACATCAACATCTCCGGCTGCGCTTTGAGACGACGCTGGGCACCTGGCGAC
 TCCCCAACACACTCTGGGGACCCCGCAAGCGCTGCGCTACTTCGACCCCTGAGGAACGAGTACT
 TCTTCGACCGCAACCGGCCAGCTTCGACGGTATCCTCTACTACTACCAGTCCGGGGCCGCTCGGGAG
 GCCGGTCAACGTCTCCCTGGACGTGTTCCGGACGAGATACGCTTCTACCAGTGGGGGACGAGGCCATG
 GAGCGCTTCCGCGAGGATGAGGGCTTCATTAAGAAGAGGAGAAGCCCTGCCCCGCAACGAGTTCAGC
 GCCAGGTGTGGCTTATCTTCAGATACCGGAGAGCTCTGGGTCCGCGCGGCCATCGCCATCGTCTCGGT
 CTTGGTTATCCTCATCTCCATCATCACCTTCTGCTTGGAGACCCTGCCTGAGTTCAGGGATGAACGTGAG
 CTGCTCCGCCACCCTCCGGCGCCCCACCAGCCTCCCGCGCCCGCCCTGGGGCCAACGGCAGCGGGTCA
 TGGCCCGCCCTCGGCCCTACGGTGGCACCGCTCCTGCCAGGACCCTGGCCGACCCTTCTTCATCGT
 GGAGACCAGTGCATCTGGTTCACCTTCGAGCTGCTCGTGCCTTCTTCGCTGCCCGCAAGGCA
 GGGTCTCCCGAACATCATGAACATCATCGATGTGGTGGCCATTTCCCTACTTCATCACCTGGGCA
 CCGAATCGCAGAGCAGCACGCCAGGGGGTGGAGGAGCGCCAGAATGGGCAGCAGGCCATGCTCCCTGGC
 CATCTCCGAGTCATCCGCTGGTCCGGGTGTTCCGCATCTCAAGCTCTCCCGCACTCCAAGGGGTG
 CAGATCTGGGCAAGACCTTGCAGGCTCCATGAGGGAGCTGGGGCTGCTCATCTTCTCTTTCATCG
 GGGTCATCTTCTCCAGTCCGCTTACTTCGCAGAGGCTGACAACCAGGGAACCCATTCTCTAGCAT
 CCCTGACGCTTCTGGTGGGAGTGGTACCATGACCACTGTGGGCTACGGGGACATGAGGCCATCACT
 GTTGGGGCAAGATCGTGGGCTCGTGTGCCATCGCCGGGTCTCACCATTGCCCTGCCTGTGCCCG
 TCATCGTCTCAACTTCAACTACTTCTACCACCGGAAACGGATCACGAGGAGCCGGCAGTCTTAAGGA
 AGAGCAGGGCACTCAGAGCCAGGGGCGGGGCTGGACAGAGGAGTCCAGCGGAAGGTGAGCGGGAGCAGG
 GGATCCTTCTGCAAGGCTGGGGGACCCTGGAGAATGCAGACAGTCCCGAAGGGGACGCTGCCCCCTAG
 AGAAGTGAACGTCAAGGCAAGAGCAACGTGGACTTCCGGAGGTCCCTTTATGCCCTCTGCTGGACAC
 CAGCCGGGAAACAGATTTG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG219793 representing NM_002234
 Red=Cloning site Green=Tags(s)

MEIALVPLENGGAMTVRGGDEARAGCGQATGGELQCPPTAGLSDGPKPAPKGRGAQRDADSGVRPLPPL
 PDPGVRPLPPLPEELPRPRRPPPEDEEEEGDPGLGTVEDQALGTASLHHQRVHINISGLRFETQLGTLAQ
 FPNTLLGDPAKRLRYFDPLRNEYFFDRNRPSFDGILYYYQSGRRLRRPVNVLDFVADEIRFYQLGDEAM
 ERFREDEGFIKEEKPLPRNEFQRQVWLIFEYPSSGSARAIIVSVLVILISIIITFCLETLPEFRDERE
 LLRHPPAPHQPPAPGANGSGVMAPPSGPTVAPLLPRTLADPFFIVETTCVIWFTFELLVRFFACPSKA
 GFSRNIMNIIDVVAIFPYFITLGTLEAEQQPGGGGGQNGQQAMSLAILRVIRLVRVFRIFKLSRHSKGL
 QILGKTLQASMRELGLLIFFLFVIGVILFSSAVYFAEADNQGTHFSSIPDAFWAVVTMTTVGYGDMRPIT
 VGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRETDHEEPAVLKKEEQGTSQSGPLDRGVQRKVSGRS
 GSFCKAGGTLENADSARRGSCPLEKCNVKAASNVDLRRSLYALCLDTSRETDL

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_002234

ORF Size: 1839 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 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_002234.4](#)

RefSeq Size: 2865 bp

RefSeq ORF: 1842 bp

Locus ID: 3741

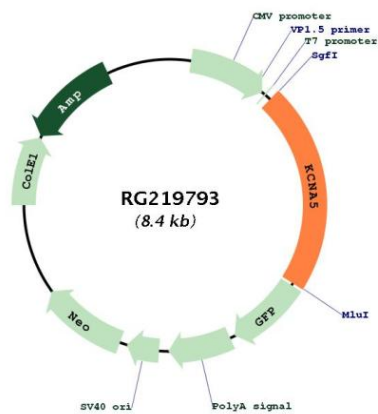
UniProt ID: [P22460](#)

Cytogenetics: 12p13.32

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

Gene Summary: Potassium channels represent the most complex class of voltage-gated ion channels from both functional and structural standpoints. Their diverse functions include regulating neurotransmitter release, heart rate, insulin secretion, neuronal excitability, epithelial electrolyte transport, smooth muscle contraction, and cell volume. Four sequence-related potassium channel genes - shaker, shaw, shab, and shal - have been identified in *Drosophila*, and each has been shown to have human homolog(s). This gene encodes a member of the potassium channel, voltage-gated, shaker-related subfamily. This member contains six membrane-spanning domains with a shaker-type repeat in the fourth segment. It belongs to the delayed rectifier class, the function of which could restore the resting membrane potential of beta cells after depolarization and thereby contribute to the regulation of insulin secretion. This gene is intronless, and the gene is clustered with genes *KCNA1* and *KCNA6* on chromosome 12. Defects in this gene are a cause of familial atrial fibrillation type 7 (ATFB7). [provided by RefSeq, May 2012]

Product images:



Circular map for RG219793