

## Product datasheet for **RG207223**

### **KCNA3 (NM\_002232) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	KCNA3 (NM_002232) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	KCNA3
Synonyms:	HGK5; HLK3; HPCN3; HUKIII; KV1.3; MK3; PCN3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG207223 representing NM\_002232  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGACGAGCGCCTCAGCCTTCTGCGCTCGCCGCCCGCCCTCAGCCCGCCACCGCGCCACCCTCCTC  
 AGCGCCACGAGCAGCGCGGTGCCACACGCTGGTGAACCACGGCTACGCGGAGCCCGCGCAGGCCG  
 CGAGCTGCCGCCGACATGACCGTGGTCCCGGGACCACCTGCTGGAGCCGGAGGTGGCCGATGGTGA  
 GGGCCCCCGCTCAAGGCGGCTGTGGCGCGCGGCTGCGACCGCTACGAGCCGCTGCCGCCCTACTGC  
 CGGCCCGGGGCGAGCAGGACTGCTGCGGGGAGCGGTGGTCAACATCTCCGGCTGCGCTTCGAGAC  
 GCAGCTGAAGACCCTTTGCCAGTCCCCGAGACGCTGCTGGGCGACCCCAAGCGGCGCATGAGGTA  
 GACCCGCTCCGCAACGAGTACTTCTCGACCGCAACCGGCCAGCTTCGACGCCATCCTCTACTACTATC  
 AGTCCGGGGCCGCATCCGCCGGCGGTCAACGTGCCATCGACATTTTCTCCGAGGAGATCCGCTTCTA  
 CCAGCTGGGCGAGGAGCCATGGAGAAGTTCGCGAGGACGAGGGCTTCTGCGGGAGGAGGAGCGGCC  
 TTGCCCGCCCGACTTCCAGCGCCAGGTGGCTGCTCTCGAGTACCCGAGAGCTCCGGGCCGGCC  
 GGGCATCGCCATCGTGTCCGTGCTGGTATCCTCATCTCCATTGTATCTTCTGCTGGAGACGCTGCC  
 GGAGTTCGCGCAGAGAAGGACTACCCCGCTCGACGTCGAGGACTCATTGAAGCAGCCGGCAACAGC  
 ACGTCCGGGTCCCGCGCAGGAGCCTCCAGCTTCTCCGATCCCTTCTTCTGCTGGAGACGCTGTGCATCA  
 TCTGGTCTCCTCGAAGTGTGGTGGGTTCTTCTGCTTGTCTAGCAAAGCCACCTTCTCGGAAACAT  
 CATGAACCTGATCGACATGTGGCCATCATTCTTATTTTACTCTGGGTACAGAGCTGGCCGAACGA  
 CAGGGCAATGGACAGCAGGCCATGTCTCTGGCCATCCTGAGGTCATCCGCTGGTAAGGGTCTTCCGCA  
 TCTTCAAGCTGTGCGCCACTCCAAGGGCTCGAGATCCTCGGCAACGCTGAAGGCGTCCATCGGGGA  
 GCTGGGATTGCTCATCTTCTTCTCTTTATTGGGGTTCATCCTTTTCTCCAGCGCGGTCTACTTTGCCGAG  
 GCAGACGACCCCACTTACAGTTCAGCAGCATCCCGATGCCTTCTGGTGGGAGTGGTAACCATGACAA  
 CAGTGGGTACGGCGATATGCACCCAGTGACCATAGGGGCAAGATTGTGGGATCTCTGTGCCATCGC  
 CGGTGTCTTGACCATCGCATTGCCAGTTCCTGATTGTTTCCAACCTCAATTACTTCTACCACCGGGAG  
 ACAGAAGGGGAAGAGCAATCCAGTACATGCACGTGGGAAGTGGCAGCACCTCTCTTTCAGCCGAGG  
 AGCTCCGAAAAGCAAGGAGTAACCTCGACTGAGTAAGTCGGAGTATATGGTATCGAAGAGGGGGTAT  
 GAACCATAGCGCTTCCCCAGACCCCTTCAAACGGGCAATCCACTGCCACCTGCACCACGAACAAT  
 AATCCCAACTCTGTGTCAACATCAAAAAGATATTCACCGATGTT

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:**

>RG207223 representing NM\_002232  
 Red=Cloning site Green=Tags(s)

MDERLSLLRSPPPPSARHRAHPPQRPASSGGAHTLVNHGYAEPAAAGRELPPDMTVVPGDHLLLEPEVADGG  
 GAPPQGGCGGGCDRYEPLPPSLPAAGEQDCCGERVVINISGLRFETQLKTLQFPETLLGDPKRRMRYP  
 DPLRNEYFFDRNRPSFDAILYYYQSGGIRRPVNPIDIFSEEIRFYQLGEEAMEKFREDEGFLREEERP  
 LPRRDFQRQVWLLFEYPESSGPARGIAIVSVLVILISIVIFCLETLPEFRDEKDYPASTSQDSFEAAGNS  
 TSGSRAGASSFSDPFVVELLCIIWFSFELLVRFACPSKATFSRNIMNLDIVAIIPYFITLGTCLAER  
 QGNGQQAMSLAILRVIRLVRVFRIFKLSRHSKGLQILGQTLKASMRELGLLIFFLFIGVILFSSAVYFAE  
 ADDPTSGFSSIPDAFWAVVTMTTVGYGDMHPVTIGGKIVGSLCAIAGVLTIALPVPVIVSNFNFYHRE  
 TEGEEQSQYMHVGSQHLSSSAEELRKARSNSTLSKSEYMVIEEGMNHSAFPQTPFKTGNSTATCTTNN  
 NPNSCVNIKKIFTDV

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_002232

**ORF Size:** 1725 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\\_002232.3](#), [NP\\_002223.3](#)

RefSeq Size: 3346 bp

RefSeq ORF: 1728 bp

Locus ID: 3738

UniProt ID: [P22001](#)

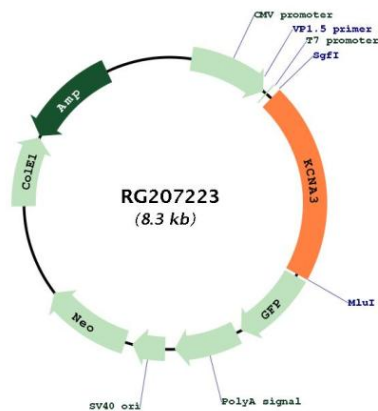
Cytogenetics: 1p13.3

Domains: BTB, K\_tetra, ion\_trans

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, members of which allow nerve cells to efficiently repolarize following an action potential. It plays an essential role in T-cell proliferation and activation. This gene appears to be intronless and it is clustered together with *KCNA2* and *KCNA10* genes on chromosome 1. [provided by RefSeq, Jul 2008]

### Product images:



Circular map for RG207223