

## Product datasheet for **SC118765**

### **KCNA3 (NM\_002232) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	KCNA3 (NM_002232) Human Untagged Clone
Tag:	Tag Free
Symbol:	KCNA3
Synonyms:	HGK5; HLK3; HPCN3; HUKIII; KV1.3; MK3; PCN3
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL4</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:**

```
>OriGene ORF sequence for NM_002232 edited
ATGGACGAGCGCCTCAGCCTTCTGCGCTCGCCGCCCGCCCTCAGCCGCCACCGCGCC
CACCTCTCAGCGCCCAGCGAGCAGCGGCGGTGCCACACGCTGGTGAACACGGCTAC
GCGGAGCCCGCCGAGGCCGCGAGCTGCCGCCGACATGACCGTGGTGCCCGGGACCAC
CTGCTGGAGCCGAGGTGGCCGATGGTGGAGGGGCCCCGCTCAAGGCGGCTGTGGCGG
GGCGGCTGCGACCGCTACGAGCCGCTCCGCCCTCACTGCCGGCCGCGGGCGAGCAGGAC
TGCTGCGGGGAGCGGTGGTCATCAACATCTCCGGGCTGCGCTTCGAGACGCAGTGAAG
ACCCTTTGCCAGTTCGCCGAGACGCTGCTGGGCGACCCCAAGCGCGCATGAGGTACTTC
GACCCGCTCCGCAACGAGTACTTCTCGACCGCAACCGGCCAGCTTCGACGCCATCCTC
TACTACTATCAGTCCGGGGGCCATCCGCCGGCCGGTCAACGTGCCATCGACATTTTC
TCCGAGGAGATCCGCTTCTACCAGCTGGGCGAGGAGGCCATGGAGAAGTTCGCGAGGAC
GAGGGTCTCTGCGGGAGGAGGAGCGGCCCTGCCCGCCGCGACTTCAGCGCCAGGTG
TGGCTGCTCTCGAGTACCCGAGAGCTCCGGGCCGGCCGGGCATCGCCATCGTGTC
GTGCTGGTCATCCTCATCTCCATTGTCTCTTCTGCTGGAGACGCTGCCGGAGTCCGC
GACGAGAAGGACTACCCGCTCGACGTCGAGGACTCATTGAAGCAGCCGCAACAGC
AGTCGGGGTCCCGCGCAGGAGCCTCCAGCTTCTCCGATCCCTTCTCGTGGTGGAGACG
CTGTGCATCATCTGGTTCTCCTCGAACTGCTGGTGGCGTTCTTCGCTTGTCTAGCAAA
GCCACCTTCTCGCAAACATCATGAACCTGATCGACATTTGGCCATCATTCTTATTTT
ATCACTCTGGGTACCGAGCTGGCCGAACGACAGGGCAATGGACAGCAGGCCATGTCTCTG
GCCATCTGAGGGTATCCGCTGGTAAGGGTCTTCCGCATTTCAAGCTGTGCGGCCAC
TCCAAGGGGTGCGAGTCTCGGGCAACGCTGAAGGCGTCCATGCGGGAGCTGGGATTG
CTCATCTTCTTCTTTATTGGGGTATCCTTTTCTCCAGCGCGGTCTACTTTGCCGAG
GCAGACACCCACTTCAGGTTTACGACGATCCCGGATGCCTTCTGGTGGCAGTGGTA
ACCATGACAACAGTGGGTTACGGCGATATGACCCAGTGACCATAGGGGGCAAGATTGTG
GGATCTCTGTGCCATCGCCGGTGTCTTGACCATCGATTGCCAGTTCCTGATTGTT
TCCAACCTCAATTACTTCTACCACCGGAGACAGAAGGGGAAGCAATCCAGTACATG
CACGTGGGAAGTTGCCAGCACCTCTCTTTCAGCCGAGGAGCTCCGAAAAGCAAGGAGT
AACTCGACTCTGAGTAAGTCGGAGTATATGGTATCGAAGAGGGGGTATGAACCATAGC
GCTTTCCCGCAGACCCCTTTCAAACGGGCAATCCACTGCCACCTGCACCACGAACAAT
AATCCAACCTCTGTGTCAACATCAAAAAGATATTCACCGATGTTTAA
```

**5' Read Nucleotide Sequence:**

```
>OriGene 5' read for NM_002232 unedited
NGTCAAAATTTGTATACGACTCTATAGGCGGCCGNAATTCGCACGAGNAGAGCATCG
CGGCTTTGGTGAACAGGCGGTGGGCTCGGCTCGGGGGCGGAGGCGGCGAAAGGGCGGG
GAGCGCGAGGAGGAGCGACCTGGCCTCACCGCTGCCGCTTTCGCCCGCCGATGGACGA
GCGCCTCAGCCTTCTGCGCTCGCCGCCCGCCCTCAGCCCGCCACCGCGCCACCCTCC
TCAGCGCCAGGAGCAGCGGCGGTGCCACACGCTGGTGAACACGGCTACGCGGAGCC
CGCCGCGAGCCGCGAGCTGCCGCCGACATGACCGTGGTGCCCGGGGACCACCTGCTGGA
GCCGGAGGTGGCCGATGGTGGAGGGGCCCGCCTCAAGGCGGCTGTGGCGCGCGGCTG
CGACCGCTACGAGCCGCTGCCGCCCTCACTGCCGGCCGCGGGCGAGCAGGACTGTGCGG
GGAGCGCGTGGTCATCAACATCTCCGGGCTGCGCTTCGAGACGCAGTGAAGACCCTTTG
CCAGTTCCCGGAGACGCTGCTGGGCGACCCCAAGCGGCGCATGAGGTACTTCGACCCGCT
CCGCAACGAGTACTTCTCGACCGCAACCGGCCAGCTTCGACGCCATCCTCTACACTAT
CAGTCNCGGGGGCCGATCCGCCGGCGGTCAACGTGCCATCGACATTTTCTCGNAGGA
GATCCGCTTCTACCAGCTGGGCGAGGAGCCTTGGNANAAGTCCGCGAGGACGAGGGCT
TNNCTGCGGNAGGAGGNAGCGGCCCTTGCCCGNCGGACTTCCACGCCAGGGGTGGC
TGCTTTCGAGACCCGAGGACTCCCGGCCCGGCCGGCATGNCTANNGGNCCCGGGCT
GGGCATCTCATCTCCATTGCATCTCTGGCTGAACC
```

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_002232 unedited  
 AAAAAAGAGGTTGNCAGNCTGTCTTTATACTCTTCTTTGGGCACGTGTAGACTTCACTTA  
 TTTATATGTAAATGGGCTAATCTATGTATGAGAGCCTTTGGTACAAAACACACCTTCACA  
 AATAAAGTTGCACATAACCCAGAACATGGAATATAACACGACTATATCTCATGATTAAC  
 ACAGTCCACTACTTAATTGAAAAAAAAAAAAACAAANACAGTAATAGTTGGCTTGCTAGAAA  
 ACAAATTTANGCTTTTCTTTCTGCAGCACTGATTATAGNTTTGGGATGATTCGATTTTCA  
 CAAAATGTCAAAGGTTGCAATGATACCTTAAATTTTAAACATTCTTAATTCTTTGAAGA  
 AAAGGCTTTAATTTGCCCGCTTTTGAAGGAAATCCTCCAATTTAAGAGTGGTCCCTTT  
 ATTAAGGCTTTTGTAGAGCATTTTTTTTTAAAGGAACCGGGATAAAAAATTTGGGGGG  
 GGAAGGGGGACCCTGCCCCCAAGAGGAATAACCGGGGCCCGGTTTTTTTGCGCCCCGC  
 GGTTTTAAAGGGGGGCTTCTTTTGGGGGGGGGGCGGTTTTAACATTTTTTTTATGGG  
 GGGGGGCTTTGTGGGTCTTTTTTTTTTCAAAAAGAGGGTCTTAATAATTTTTTAAATTT  
 TGGGGGGGGGGGTTTTTTTTTTTTTTTTTTTTTGGGGGGGGGGGTTCTTTTTTTTT  
 TCCCCCGGGGGGGGGGGGGAGAGGGGTCCCCCCCCCTTTTTTTTTTTTTTTTTTTTT  
 TTTTTTCCCCCTCTCTATTAGAGAAGAAAAACAAAAGGGGGGTGTCCAAAACAAA  
 AAAGAAGGACCCCCCCCCCTCTTATTAGGGGGGGGGGCCAAAACCTCAAAA  
 AAA

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_002232

**Insert Size:**

4200 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:**

The ORF of this clone has been fully sequenced and found to be a perfect match to NM\_002232.3.

**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:	<u>NM_002232.2, NP_002223.2</u>
RefSeq Size:	3303 bp
RefSeq ORF:	1572 bp
Locus ID:	3738
UniProt ID:	<u>P22001</u>
Cytogenetics:	1p13.3
Domains:	BTB, K_tetra, ion_trans
Protein Families:	Druggable Genome, Ion Channels: Potassium, Transmembrane
Gene Summary:	<p>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]</p> <p>Transcript Variant: This variant (1) encodes the functional protein.</p>