

Product datasheet for **MC229446**

Kcnma1 (NM_001253378) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Kcnma1 (NM_001253378) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Kcnma1
Synonyms:	5730414M22Rik; BKCa; MaxiK; mSlo; mSlo1; Slo; Slo1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
Fully Sequenced ORF:	>MC229446 representing NM_001253378 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGC**

ATGGCAAACGGTGGCGGCGGGCGGGCGGCAGCAGCGGGCGGGCGGGCGGGCGGGCGGGAGGCAGCGGT
 TTAGAATGAGCAGCAATATCCACGCGAACCATCTCAGCCTAGACGCGTCTCTCTCTCTCTCTCTCTCTCT
 CTCTTTCTTTCTTCT
 ATACCGGTGACCATGGAGGTGCCGTGCGACAGCCGGGGCAACGCATGTGGTGGGCTTTCTTGGCCTCCT
 CCATGGTGACTTCTTTCGGGGCCTCTTCATCATCTTGCTCTGGCGGACGCTCAAGTACCTGTGGACCGT
 TTGCTGCCACTGCGGGGCAAGACGAAGGAGGCCAGAAGATAAAACAATGGCTCCAGCCAGGCAGATGGT
 ACTCTCAAGCCAGTGGACGAAAAAGAGGAGGTGGTGGCAGCCGAGGTGGCTGGATGACATCTGTGAAGG
 ACTGGCAGGGGTGATGATATCCGCCAGACACTGACTGGCAGAGTCTGGTGTGTAGTCTTTGCTCT
 CAGCATTGGTGCCCTCGTAATACTTCATAGACTCGTCAAACCAATAAGAATCCTGCCAGAATTTCTAC
 AAAGATTTACATTACAGATCGACATGGCTTCAACGTGTTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCT
 TTGCAGCCAACGATAAGCTGTGGTCTGGCTGGAAGTGAATTCAGTAGATTCTTTCCAGACTCCCTCT
 TGTGTTTTGTGTCTGTACTTAAACAGAAGTTGGCTTGGCTTGAGATTTTAAAGAGCTCTCAGACTGATA
 CAGTTTTCAGAGATTTTGCAGTTTCTGAATATCCTTAAAAACAAGTAACTCCATCAAGCTGGTGAATCTGC
 TCTCCATATTTATCAGCACGTGGCTGACTGCAGCTGGATTCATCCACTTGGTGGAGAATTCAGGGGACCC
 ATGGGAAAATTTCAAACAACCCAGGCCTTACGTACTGGAAATGTGTCTACTTACTCATGGTCACAATG
 TCTACAGTGGGTATGGGACGTTTATGCAAAAACCACTTGGACGCCTTTCATGGTCTTCTTCATCC
 TCGGGGACTGGCCATGTTTGCCAGCTACGTCCCTGAAATCATAGAGTTAATAGGAAACCGCAAGAAATA
 CGGGGGCTCCTATAGCGCGTTAGTGAAGAAAGCACATTGTAGTCTGTGGACACATTACTCTGGAGAGT
 GTCTCTAACTTCTGAAGGACTTCTGCACAAGGACCGGGATGATGTCAACGTGGAGATTGTCTTTCTTC
 ACAACATCTCCCCTAACCTTGAGCTTGAGGCTCTGTTCAAACGGCATTTCACTCAGGTGGAGTTTATCA
 GGGCTCTGTCCTCAATCCACATGATCTTGCCAGAGTCAAGATAGAGTCAGCAGATGCATGCCTGATCCTT
 GCCAATAAGTATTGCGCTGACCCGGATGCAGAAGATGCCTCCAACATCATGAGAGTGATCTCCATCAAAA



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ACTACCACCCAAAGATCAGGATCATCACTCAGATGCTGCAGTATCACAACAAGGCCCATCTGCTCAACAT
 CCCCAGCTGGAAGTGGAAAGAGGGTGTGACGCAATATGCCTTGACAGCTCAAGTTGGGTTTCATAGCC
 CAGAGCTGTCTGGCTCAAGGCCTCTCCACAATGCTTGCCAATCTTTCTCTATGAGGTCATTCATAAAGA
 TTGAGGAAGACACATGGCAGAAATACTACTTGGAAAGGAGTCTCCAATGAAATGTACACAGAATATCTCTC
 CAGTGCCTTCGTGGGTCTGTCTCCCTACTGTTTGTGAGCTGTGTTTGTGAAGCTTAAGCTCCTGATG
 ATAGCCATTGAGTACAAGTCTGCCAACAGAGAGAGCCGAATATTAATTAACCCTGGGAACCACCTTAAGA
 TCCAAGAAGTACTTTAGGATTTTTTCATCGCAAGTGTGCCAAAGAAGTTAAAAGGGCATTTTTTTACTG
 CAAGGCCTGTCATGATGACGTACAGATCCCAAAAAGAATTAATAAATGTGGCTGCAGGCGGCTTGAAGAT
 GAGCAGCCGCCAACCTGTACCAAAAAAAAAAACGTAATGGGGCATGAGGAACTCGCCCAACACCT
 CCCCAGCTGATGAGGCATGACCCCTTGTTAATTCCTGGCAATGATCAGATTGACAACATGGACTCCAA
 TGTGAAAAAGTACGACTCCACTGGAATGTTTCACTGGTGTGCACCAAGGAGATTGAGAAAGTACTTTG
 ACTCGAAGTGAAGCTGCCATGACTGTCTGAGTGGCCATGTCGTAGTCTGCATCTTTGGGGATGCAGCT
 CAGCCCTGATTGGCTCCGGAACCTGGTATGCCACTTCGTGCTAGCAACTTTCACTATCATGAGCTCAA
 ACATTTGTGTTTGTGGCTCCATTGAGTACCTCAAGAGGGAGTGGGAAACTGCACAACCTCCCGAAA
 GTGTCCATATTGCTGTACACATTAAGTCGGCTGATTTAAGGGCTGTCAACATCAACCTCTGTGACA
 TGTGCGTTATCCTGTCAGCCAATCAGAATAATATTGATGATACTTCGCTTCAGGACAAGGAATGCATCTT
 GGCGTCACTCAACATCAATCTATGCAGTTTGTGACAGCATCGGGGTCTTGAGGCTAATTCACAAAGGA
 TTCACACCTCCTGGAATGGACAGATCATCACCCGACAACAGCCAGTGCACGGGATGTTACGCCAGCCGT
 CCATCACAACCTGGGGTCAACATTCATCATCACGGAACCTCGTGAATGATACCAATGTTCAAGTTTTTGA
 CCAAGACGATGACGATGACCCCTGACACAGAGCTGTACCTCACACAGCCCTTTCCTTGTGGGACAGCATT
 GCCGTGAGCGTCTGGACTCACTCATGAGCGGACATACTTCAATGACAATATCCTCACCTAATACGGA
 CCCTGGTGACAGGAGGAGCCACACCAGAGCTCGAGGCTCTAATAGCTGAGGAGAATGCACCTCGAGGAGG
 CTACAGCACTCCGACAGCATTGGCCAACAGGGACCGTTGCCAGTGGCCAGTTAGCCCTGTTAGATGGT
 CCTTTGCAGACTTAGGGGATGGTGGTTGTTATGGTGTCTGTTCTGCAAGCTCTGAAAACATATAATA
 TGCTTTGTTTTGGAATTTACCGCTGAGAGATGCCACCTCAGCACCCCCAGCCAGTGTACAAAAAGGTA
 CGTCATACCAATCCTCCCTACGAGTTTGTGCTGTACCAACAGACCTGATCTTCTGCCTGATGCAGTTT
 GACCACAACGCTGGCCAATCCCGGGCCAGTCTGTCTCATTCTCCCACTCCTCACAGTCGTCAGTAAGA
 AGAGCTCCTCCGTCCACTCCATCCCGTCCACAGCAAATCGGCCGAACCGGCCAAGTCCAGGGAGTCCCG
 CGACAAACAGAAAAAGAAATGGTTTACAGATGA

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** SgfI-RsrII
- ACCN:** NM_001253378
- Insert Size:** 3534 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- 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_001253378.1](#), [NP_001240307.1](#)

RefSeq Size: 4941 bp

RefSeq ORF: 3534 bp

Locus ID: 16531

Cytogenetics: 14 A3

Gene Summary: Potassium channel activated by both membrane depolarization or increase in cytosolic Ca(2+) that mediates export of K(+). It is also activated by the concentration of cytosolic Mg(2+). Its activation dampens the excitatory events that elevate the cytosolic Ca(2+) concentration and/or depolarize the cell membrane. It therefore contributes to repolarization of the membrane potential. Plays a key role in controlling excitability in a number of systems, such as regulation of the contraction of smooth muscle, the tuning of hair cells in the cochlea, regulation of transmitter release, and innate immunity. In smooth muscles, its activation by high level of Ca(2+), caused by ryanodine receptors in the sarcoplasmic reticulum, regulates the membrane potential. In cochlea cells, its number and kinetic properties partly determine the characteristic frequency of each hair cell and thereby helps to establish a tonotopic map. Kinetics of KCNMA1 channels are determined by alternative splicing, phosphorylation status and its combination with modulating beta subunits. Highly sensitive to both iberiotoxin (IbTx) and charybdotoxin (CTX).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (22) lacks three coding exons and has an alternate splice site in the 3' coding region, which results in a frameshift, compared to variant 1. The resulting isoform (22) is shorter and has a distinct C-terminus, compared to isoform 1. **Sequence Note:** The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.