

## Product datasheet for MC224008

### Kcnma1 (NM\_010610) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Kcnma1 (NM\_010610) 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:** >MC224008 representing NM\_010610  
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGGATCGC

ATGGCAAACGGTGGCGGCGGGCGGGCGGCAGCAGCGGGCGGCGGGCGGGCGGAGGCGAGCGGT  
TTAGAATGAGCAGCAATATCCACGCGAACCATCTCAGCCTAGACGCGTCTCTCTCCTCTTCCTCCT  
CTTTTCTTTCTTCTCCTCTCCTTCTCCTCCTCGTCTCCTGGTCCACGAGCCCAAGATGGATGCGCTCATC  
ATACCGGTGACCATGGAGGTGCCGTGCGACAGCCGGGGCAACGCATGTGGTGGGCTTTCTTGGCCTCCT  
CCATGGTGACTTTCTTGGGGGCCTCTTCATCATCTTGTCTTGCCGGACGCTCAAGTACCTGTGGACCGT  
TTGCTGCCACTGCGGGGCAAGACGAAGGAGGCCCAGAAGATAAAACAATGGCTCCAGCCAGGCAGATGGT  
ACTCTCAAGCCAGTGGACGAAAAAGAGGAGGTGGTGGCAGCCGAGGTCGGCTGGATGACATCTGTGAAGG  
ACTGGCAGGGGTGATGATATCCGCCAGACACTGACTGGCAGAGTCTGGTTGTGTTAGTCTTTGCTCT  
CAGCATTGGTGCCTCGTAATACTTCATAGACTCGTCAAACCAATAGAATCCTGCCAGAATTTCTAC  
AAAGATTTACATTACAGATCGACATGGCTTTCAACGTGTTCTTCCTCTACTTTGGCTTTCGCGTTTA  
TTGCAGCCAACGATAAGCTGTGGTCTGGCTGGAAGTAATTCAGTAGATGATTCTTCCACAGTCCCTTC  
TGTGTTTGTGCTGTGTAATAACAGAAGTGGCTTGGCTTGGATTTTAAGAGCTCTCAGACTGATA  
CAGTTTTCAGAGATTTTGCAGTTTCTGAATATCCTTAAAAACAAGTAACCTCATCAAGCTGGTGAATCTGC  
TCTCCATATTTATCAGCACGTGGCTGACTGCAGCTGGATTCATCCACTGGTGGAGAATTCAGGGGACCC  
ATGGGAAAATTTCAAAAACAACCAGGCCTTACGTACTGGGAATGTGTCTACTTACTCATGGTCAACAATG  
TCTACAGTGGTTATGGGACGTTTATGCAAAAACCACTTGGACGCCCTTTCATGGTCTTCTTCATCC  
TCGGGGGACTGGCCATGTTTGCCAGCTACGTCCCTGAAATCATAGAGTTAATAGGAAACCGAAGAATA  
CGGGGGCTCTATAGCGCGTTAGTGAAGAAAGCACATTGTAGTCTGTGGACACATTACTCTGGAGAGT  
GTCTCTAACTTCTGAAGGACTTCTGCACAAGGACCGGGATGATGTCAACGTGGAGATTGCTTTCTTC  
ACAACATCTCCCCTAACCTTGAGCTTGAGGCTCTGTTCAAACGGCATTTCACTCAGGTGGAGTTTATCA  
GGGCTCTGTCCCTCAATCCACATGATCTTGCCAGAGTCAAGATAGAGTCAGCAGATGCATGCCTGATCCTT  
GCCAATAAGTATTGCGCTGACCCGGATGCGAAGATGCCTCCAACATCATGAGAGTGATCTCCATCAAAA



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ACTACCACCCAAAGATCAGGATCATCACTCAGATGCTGCAGTATCACAACAAGGCCCATCTGCTCAACAT  
 CCCCAGCTGGAAGTGGAAAGAGGGTGTGACGCAATATGCCTTGACAGCTCAAGTTGGGTTTCATAGCC  
 CAGAGCTGTCTGGCTCAAGGCCTCTCCACAATGCTTGCCAATCTTCTCTATGAGGTCATTCAAAGA  
 TTGAGGAAGACACATGGCAGAAATACTACTTGGAAAGAGTCTCCAATGAAATGTACACAGAATATCTCTC  
 CAGTGCCTTCGTGGGTCTGTCTTCCCTACTGTTTGTGAGCTGTGTTTGTGAAGCTTAAGCTCCTGATG  
 ATAGCCATTGAGTACAAGTCTGCCAACAGAGAGCCGAATTAATTAACCTGGGAACCACCTTAAGA  
 TCCAAGAAGGTACTTTAGGATTTTTTCATCGCAAGTGTGCCAAAGAAGTTAAAAGGGCATTTTTTTACTG  
 CAAGGCCTGTCATGATGACGTACAGATCCCAAAAGAATTAAAAAATGTGGCTGCAGGCCGCCAAGATG  
 TCCATCTACAAGAGAATGAGACGAGCATGTTGTTTTGATTGCGGACGTTCTGAGCGTGACTGCTCGTGCA  
 TGTCAGGCCGTGTGCGTGGTAACGTGGACACCCTTGAGAGAACCCTTCCCGCTTTCTTCTGTCTGTAA  
 TGATTGCTCCACCAGTTTCCGTGCCTTTGAAGATGAGCAGCCGCCAACCTGTCACCAAAAAAAAAACAA  
 CGTAATGGGGCATGAGGAACCTGCCAACACCTCCCCGAAGCTGATGAGGCATGACCCCTTGTAAATTC  
 CTGGCAATGATCAGATTGACAACATGGACTCCAATGTGAAAAAGTACGACTCCACTGGAATGTTTACTG  
 GTGTGCACCCAAGGAGATTGAGAAAGTCATCTTGACTCGAAGTGAAGCTGCCATGACTGTCTGAGTGGC  
 CATGTCTGATGTCATCTTTGGGGATGTCAGCTCAGCCCTGATTGGCCTCCGGAACCTGGTGATGCCAC  
 TTCGTGCTAGCACTTTCACTATCATGAGCTCAAACACATTGTGTTTGTGGGCTCCATTGAGTACCTCAA  
 GAGGGAGTGGGAACACTGCACAACCTCCCGAAAGTGTCCATATTGCCTGGTACACCATTAAGTCGGGCT  
 GATTTAAGGGCTGTCAACATCAACCTCTGTGACATGTGCGTTATCCTGTGAGCCAATCAGAATAATTTG  
 ATGATACTTCGCTTCAGGACAAGGAATGCATCTTGGCGTCACTCAACATCAAAATCTATGACGTTTGTGA  
 CAGCATCGGGTCTTGCAGGCTAATCCCAAGGATTACACCTCCTGGAATGGACAGATCATCACCCGAC  
 AACAGCCAGTGCACGGGATGTTACGCCAGCCGTCCATCACAACCTGGGGTCAACATCCCATCATACGG  
 AACTCGTGAATGATACCAATGTTTCAGTTTTTGGACCAAGACGATGACGATGACCCTGACACAGAGCTGA  
 CCTCACACAGCCCTTTGCTTGTGGGACAGCATTGCGCTCAGCGTCTGGACTCACTCATGAGCGCGACA  
 TACTTCAATGACAATATCCTCACCTAATACGGACCCTGGTGACAGGAGGAGCCACACCAGAGCTCGAGG  
 CTCTAATAGCTGAGGAGAATGCACCTTCGAGGAGCTACAGCACTCCGCGAGACATTGGCCAACAGGGACCG  
 TTGCCGAGTGGCCAGTTAGCCCTGTTAGATGGTCCCTTTCAGACTTAGGGGATGGTGGTTGTTATGGT  
 GATCTGTTCTGCAAAGCTCTGAAAACATATAATATGCTTTGTTTTGGAATTTACCGGCTGAGAGATGCC  
 ACCTCAGCACCCCGAGCCAGTGTACAAAAGGTACGTCACTACCAATCCTCCCTACGAGTTTGTGCTCGT  
 ACCAACAGACCTGATCTTCTGCCTGATGCAGTTTGACCACAACGCTGGCCAATCCCGGGCCAGTCTGTCT  
 CATTCTCCCACTCCTCACAGTGTCCAGTAAGAAGAGCTCCTCCGTCCACTCCATCCCCTCCACAGCAA  
 ATCGGCCGAACCGGCCAAGTCCAGGGAGTCCCGCGACAAACAGAACAGAAAAGAATGGTTTACAGATG  
 A

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:**

SgfI-RsrII

**ACCN:**

NM\_010610

**Insert Size:**

3711 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).

**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\\_010610.3](#), [NP\\_034740.2](#)

**RefSeq Size:** 5118 bp

**RefSeq ORF:** 3711 bp

**Locus ID:** 16531

**UniProt ID:** [Q08460](#)

**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 (8) has multiple differences in the coding region, one of which results in a frameshift, compared to variant 1. The resulting isoform (8) is shorter and has a distinct C-terminus, compared to isoform 1.