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Product datasheet for MC208028

Kcnk1 (NM_008430) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Kcnk1 (NM_008430) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Kcnk1
Synonyms:	AI788889; TWIK-1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
Fully Sequenced ORF:	>MC208028 representing NM_008430 Red=Cloning site Blue=ORF Orange=Stop codon TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCCGCGATCGCC ATGCTGCAGTCCCTGGCCGGCAGCTCGTGCGTGCGCCTGGTGGAGCGGCACCGTTCGGCCTGGTGCTTCG GCTTCCTGGTGCTGGGCTACCTGCTCTACCTGGTGTTCGGCGCCGTGGTCTTCTCGTCCGTGGAGCTGCC TTATGAGGACCTGCTGCGCCAGGAGCTGCGCAAGCTGAAGCGGCGCTTCCTGGAGGAGCACGAGTGCCTG TCGGAGCCGCAGCTGGAGCAGTTCCTGGGCCGCGTGCTGGAGGCCAGCAATTATGGAGTGTCGGTGCTCA GCAACGCCTCGGGAAATTGGAATTGGGACTTCACCTCGGCGCTCTTCTTCGCCAGCACCGTGCTCTCCAC CACAGGCTATGGCCACACGGTGCCCCTGTCAGATGGGGGCAAAGCCTTCTGCATCATCTACTCTGTCATC GGCATCCCGTTCACCCTCCTCTTCCTGACGGCCGTGGTCCAGCGTGTCACCGTGCATGTCACCCGCAGAC CAGTCCTCTACTTCCACATACGCTGGGGCTTCTCCAAGCAGGTGGTGGCCATTGTCCATGCCGTTCTGCT GGGATTTGTCACCGTTTCCTGCTTCTTCTTCATCCCAGCCGCCGTGTTCTCTGTGCTGGAGGATGACTGG AACTTCCTCGAGTCTTTTTACTTCTGTTTCATCTCCCTGAGCACCATCGGCCTGGGGGACTATGTTCCAG GGGAAGGCTACAACCAGAAGTTCCGAGAGCTGTACAAGATCGGAATCACGTGTTACCTGCTCCTCGGACT CATCGCCATGCTGGTTGTCCTGGAGACCTTCTGTGAACTCCACGAGCTGAAGAAGTTCAGGAAGATGTTC TACGTGAAGAAAGACAAGGACGAAGACCTGGTTCACATCATGGAGCACGACCAGCTGTCCTTCTCCTCCG TCACTGAGCAGGTGGCTGGCCTGAAGGAGGAGCAGAAGCAAAGTGAGCCTTTTGTGGCCTCCCAGTCCCC ACCCTATGAGGATGGCTCTGCAGACCACTGA ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT ACAAGGATGACGACGATAAGGTTTAA
Restriction Sites:	SgfI-MluI
ACCN:	NM_008430

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Insert Size:	1011 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
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_008430.2, NP_032456.2
RefSeq Size:	2306 bp
RefSeq ORF:	1011 bp
Locus ID:	16525
UniProt ID:	O08581
Cytogenetics:	8 E2

Gene Summary: Ion channel that contributes to passive transmembrane potassium transport and to the regulation of the resting membrane potential in brain astrocytes, but also in kidney and in other tissues (PubMed:16847696, PubMed:22431633, PubMed:24368895). Forms dimeric channels through which potassium ions pass in accordance with their electrochemical gradient. The channel is selective for K(+) ions at physiological potassium concentrations and at neutral pH, but becomes permeable to Na(+) at subphysiological K(+) levels and upon acidification of the extracellular medium. The homodimer has very low potassium channel activity, when expressed in heterologous systems, and can function as weakly inward rectifying potassium channel (PubMed:9013852, PubMed:24496152). Channel activity is modulated by activation of serotonin receptors (PubMed:24368895). Heterodimeric channels containing KCNK1 and KCNK2 have much higher activity, and may represent the predominant form in astrocytes (PubMed:24496152). Heterodimeric channels containing KCNK1 and KCNK3 or KCNK9 have much higher activity. Heterodimeric channels formed by KCNK1 and KCNK9 may contribute to halothane-sensitive currents (By similarity). Mediates outward rectifying potassium currents in dentate gyrus granule cells and contributes to the regulation of their resting membrane potential (PubMed:25406588). Contributes to the regulation of action potential firing in dentate gyrus granule cells and down-regulates their intrinsic excitability (PubMed:25406588). In astrocytes, the heterodimer formed by KCNK1 and KCNK2 is required for rapid glutamate release in response to activation of G-protein coupled receptors, such as F2R and CNR1 (PubMed:24496152). Required for normal ion and water transport in the kidney (PubMed:16025300). Contributes to the regulation of the resting membrane potential of pancreatic beta cells (PubMed:22431633). The low channel activity of homodimeric KCNK1 may be due to sumoylation. The low channel activity may be due to rapid internalization from the cell membrane and retention in recycling endosomes (PubMed:15540117).[UniProtKB/Swiss-Prot Function]