

Product datasheet for **KN517889**

Tmem64 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 linear donor
Donor DNA:	EF1a-GFP-P2A-Puro
Symbol:	Tmem64
Locus ID:	100201



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Components:
KN517889G1, Tmem64 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

KN517889G2, Tmem64 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)

KN517889D, Linear donor DNA containing LoxP-EF1A-tGFP-P2A-Puro-LoxP:

The sequence below is cassette sequence only. The linear donor DNA also contains proprietary target sequence.

LoxP-EF1A-tGFP-P2A-Puro-LoxP (2739 bp)

ATAACTTCGT ATAATGTATG CTATACGAAG TTATCGTGAG GCTCCGGTGC CCGTCAGTGG GCAGAGCGCA
 CATCGCCAC AGTCCCGAG AAGTTGGGG GAGGGGTGCG CAATTGAACC GGTGCCTAGA GAAGGTGGCG
 CGGGGTAAAC TGGGAAAGTG ATGTCGTGTA CTGGCTCCGC CTTTTCCCG AGGGTGGGG AGAACCGTAT
 ATAAGTCAG TAGTCGCCG GAACGTTCT TTTGCAACG GGTTCGCCG CAGAACACAG GTAAGTGCCG
 TGTGTGGTTC CCGCGGGCT GGCCTCTTA CGGGTTATGG CCCTTGCGTG CCTTGAATTA CTTCCACCTG
 GCTGCAGTAC GTGATTCTG ATCCGAGCT TCGGGTTGGA AGTGGGTGG AGAGTTCAG GCCTTGCGCT
 TAAGGAGCCC CTTCGCCTG TGCTTGAGT GAGGCCTGG CTGGGCGCT GGGCCGCCG GTGCGAATCT
 GGTGGCACCT TCGCGCCTG CTCGCTGCT TCGATAAGT TCTAGCCATT TAAAAATTTT GATGACCTGC
 TGCAGCGCTT TTTTCTGGC AAGATAGTCT TGTAAATGCG GGCCAAGATC TGCACACTGG TATTTTCGTT
 TTTGGGGCCG CGGGCGGCGA CGGGGCCCGT GCGTCCCAGC GCACATGTTC GGCAGGCGG GGCCTGCGAG
 CGCGGCCACC GAGAATCGGA CGGGGGTAGT CTCAAGCTGG CCGGCCTGCT CTGGTGCCTG GCCTCGCGCC
 GCCGTGTATC GCCCGGCCCT GGGCGGCAAG GCTGGCCCG TCGGCACCAAG TTGCGTGAGC GGAAAGATGG
 CCGCTTCCCG GCCCTGCTG AGGGAGCTCA AAATGGAGGA CGCGGCGCTC GGGAGAGCGG GCGGGTGAGT
 CACCCACACA AAGGAAAAGG GCCTTCCCGT CCTCAGCCGT CGCTTCATGT GACTCCACGG AGTACCGGGC
 GCCGTCCAGG CACCTCGATT AGTTCTCGAG CTTTGGAGT ACGTCGCTT TAGGTTGGGG GGAGGGGTTT
 TATGCGATGG AGTTTCCCCA CACTGAGTGG GTGGAGACTG AAGTTAGGCC AGCTTGGCAG TTGATGTAAT
 TCTCCTTGGG ATTTGCCCTT TTTGAGTTG GATCTTGGT CATTCTCAAG CCTCAGACAG TGGTTCAAAG
 TTTTTTCTT CCATTTCAAG TGTCGTGAAT GGAGAGCGAC GAGAGCGGCC TGCCCGCCAT GGAGATCGAG
 TGCCGCATCA CCGGCACCT GAACGGCGTG GAGTTCGAGC TGGTGGGCGG CGGAGAGGGC ACCCCGAGC
 AGGGCCGCAT GACCAACAAG ATGAAGAGCA CCAAAGGCGC CCTGACCTTC AGCCCTACC TGCTGAGCCA
 CGTGATGGG TACGGTTCT ACCACTTCG CACCTACCC AGCGGCTACG AGAACCCCTT CCTGCACGCC
 ATCAACAACG GCGGCTACAC CAACACCCG ATCGAGAAGT ACGAGGACGG CGGCGTGCTG CACGTGAGCT
 TCAGCTACCG CTACGAGGCC GGCCGCGTGA TCGGCGACTT CAAGGTGATG GGCACCGGCT TCCCCGAGGA
 CAGCGTGATC TTCACCGACA AGATCATCCG CAGCAACGCC ACCGTGGAGC ACCTGCACCC CATGGCGGAT
 AACGATCTGG ATGGCAGCTT CACCCGACC TTCAGCCTGC GCGACGGCGG CTAATACAGC TCCGTGGTGG
 ACAGCCACAT GCACTTCAAG AGCGCCATCC ACCCCAGCAT CCTGCAGAAC GGGGGCCCCA TGTTGCCTT
 CCGCCGCGTG GAGGAGGATC ACAGCAACAC CGAGCTGGGC ATCGTGAGT ACCAGCACGC CTTCAAGACC
 CCGGATGCAG ATGCCGTTGA AGAAAGAGGA AGCGGAGCTA CTAAGTTCAG CCTGCTGAAG CAGGCTGGAG
 ACGTGGAGGA GAACCTGGA CCTATGACCG AGTACAAGCC CACGGTGCGC CTCGCCACCC GCGACGACGT
 CCCAGGGCC GTACGCACCC TCGCCGCCG GTTCGCCGAC TACCCGCCA CGGCCACAC CGTCGATCCG
 GACCGCCACA TCGAGCGGT CACCGAGCTG CAAGAACTCT TCCTCACGCG CGTCGGGCTC GACATCGGCA
 AGGTGTGGT GCGGACGAC GCGCCCGCG TGGCGGTCTG GACCACGCC GAGAGCGTCT AAGCGGGGGC
 GGTGTTCCGC GAGATCGGCC CGCGCATGGC CGAGTTGAGC GGTTCGCGG TGCCCGCGCA GCAACAGATG
 GAAGGCTCC TGGCGCCGA CCGGCCAAG GAGCCCGCT GGTTCCTGGC CACCGTCGGC GTCTCGCCG
 ACCACAGGG CAAGGTCTG GGCAGCGCG TCGTGCTCC CGAGTGAGG GCGGCCGAGC GCGCCGGGT
 GCCCGCTTC CTGGAGACCT CCGCGCCCG CAACCTCCC TTCTACGAG GGCTCGGCTT CACCGTCACC
 GCCGACGTC AGGTGCCGA AGGACCGCG ACCTGGTGCA TGACCCGCAA GCCCGGTGCC TGAACTTGT
 TTATTGCAGC TTATAATGGT TACAAATAA GCAATAGCAT CACAAATTTT ACAAATAAAG CATTTTTTTC
 ACTGCATTCT AGTTGTGGT TGTCCAACT CATCAATGTA TCTTAATAA TTCGTATAAT GTATGCTATA CGAAGTTAT



RefSeq:	NM_181401
UniProt ID:	Q3U145
Synonyms:	9630015D15Rik; AI790744; AV300874
Summary:	Positively regulates TNFSF11-induced osteoclast differentiation. Acts as a regulator of TNFSF11-mediated Ca(2+) signaling pathways via its interaction with SERCA2 which is critical for the TNFSF11-induced CREB1 activation and mitochondrial ROS generation necessary for proper osteoclast generation. Association between TMEM64 and SERCA2 in the ER leads to cytosolic Ca (2+) spiking for activation of NFATC1 and production of mitochondrial ROS, thereby triggering Ca (2+) signaling cascades that promote osteoclast differentiation and activation (PubMed:23395171). Negatively regulates osteoblast differentiation and positively regulates adipocyte differentiation via modulation of the canonical Wnt signaling pathway. Mediates the switch in lineage commitment to osteogenesis rather than to adipogenesis in mesenchymal stem cells by negatively regulating the expression, activity and nuclear localization of CTNNB1 (PubMed:25979161).[UniProtKB/Swiss-Prot Function]

Product images:

