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# Product datasheet for SC326891

## TMEM64 (NM_001146273) Human Untagged Clone

### Product data:

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| **Product Type:** | Expression Plasmids |
| **Product Name:** | TMEM64 (NM_001146273) Human Untagged Clone |
| **Tag:** | Tag Free |
| **Symbol:** | TMEM64 |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |
| **Fully Sequenced ORF:** | >SC326891 representing NM_001146273.<br>Blue=Insert sequence Red=Cloning site Green=Tag(s)<br><br>GCTCGTTTAGTGAACCGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTG<br>GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC<br>ATGCGGAGCCCGGGCGGGATCCTGCTCCAGGCGCTGCCCCGGCTGCTGCAGCACGCCGCCCTCCCGGGC<br>CTCGCCGAGCTGCCGGCCCGCTGGGCCCTGCCGCGGGGTGCGGGCGGGGACGGCCCGGCGGACCGCCTT<br>CCCCGCGGGGGCGGGGCGAGCGCGGCGGCGGCAGCAGCGGCGGCCTCGGGCGCCCTGCTCGGCGCCTAT<br>CTGGAGCGCCACGGTCCGCCCGAGGCTTCGGAGCTGCCGGAGCCGGGCGGGGCCTTGGCGGGCGGCCCC<br>GGGAGTGGCGGCGGCGGCGTGGTGGTCGGCGTGGCTGAGGTGAGAAACTGGCGCTGCTGCTGCCTCGGC<br>AGCACCTGTTGGTGCCGGAGCCTCGTGCTGGTCTGCGTGTTGGCCGCCCTGTGCTTCGCTTCCCTGGCC<br>CTGGTCCGCCGCTACCTTCACCACCTCCTGCTGTGGGTGGAGAGCCTTGACTCGCTGCTGGGGGTCCTG<br>CTCTTCGTCGTGGGCTTCATCGTGGTCTCTTTCCCCTGCGGCTGGGGCTACATCGTGCTCAACGTGGCC<br>GCTGGCTACCTGTACGGCTTCGTGCTGGGCATGGGTCTGATGATGGTGGGCGTCCTCATCGGCACCTTC<br>ATCGCCCATGTGGTCTGCAAGCGGCTCCTCACCGCCTGGGTGGCCGCCAGGATCCAGAGCAGCGAGAAG<br>CTGAGCGCGGTTATTCGCGTAGTGGAGGGAGGAAGCGGCCTGAAAGTGGTGGCGCTGGCCAGACTGACA<br>CCCATACCTTTTGGGCTTCAGAATGCAGTGTTTTCGATTATTATAAGTATAGGCCTCATGTTTTATGTA<br>GTTCATCGAGCTCAAGTGGAATTGAATGCAGCTATTGTAGCTTGTGAAATGGAACTGAAATCTTCTCTG<br>GTTAAAGGCAATCAACCAAATACCAGTGGCTCTTCATTCTACAACAAGAGGACCCTAACATTTTCTGGA<br>GGTGGAATCAATGTTGTATGA<br>ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT<br>TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC |
| **Restriction Sites:** | SgfI-MluI |
| **ACCN:** | NM_001146273 |
| **Insert Size:** | 987 bp |

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| **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:** | This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA. |
| **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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_001146273.1 |
| **RefSeq Size:** | 4663 bp |
| **RefSeq ORF:** | 987 bp |
| **Locus ID:** | 169200 |
| **UniProt ID:** | Q6YI46 |
| **Cytogenetics:** | 8q21.3 |
| **Protein Families:** | Transmembrane |
| **MW:** | 34 kDa |

**Gene 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. 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. [UniProtKB/Swiss-Prot Function]
Transcript Variant: This variant (2) lacks an alternate in-frame exon in the coding region, compared to variant 1, resulting in an isoform (2) that is shorter than isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.