

## **Product datasheet for SC301308**

## TMEM64 (NM 001008495) Human Untagged Clone

**Product data:** 

**Product Type: Expression Plasmids** 

**Product Name:** TMEM64 (NM\_001008495) Human Untagged Clone

Tag: Tag Free Symbol: TMEM64 **Mammalian Cell** 

Selection:

Neomycin

Vector: pCMV6-Entry (PS100001) E. coli Selection: Kanamycin (25 ug/mL)

>SC301308 representing NM\_001008495. **Fully Sequenced ORF:** 

Blue=Insert sequence Red=Cloning site Green=Tag(s)

GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC

ATGCGGAGCCCGGCGGATCCTGCTCCAGGCGCTGCCCCGGCTGCTGCAGCACGCCGCCCTCCCGGGC CCCCGCGGGGGCGGGGGGGCGCGGCGGCAGCAGCGGCGCCTCGGGCGCCCTGCTCGGCGCCTAT GGGAGTGGCGGCGGCGTGGTGGTCGCCGTGGCTGAGGTGAGAAACTGGCGCTGCTGCTGCCTCGGC AGCACCTGTTGGTGCCGGAGCCTCGTGCTGGTCTGCGTGTTGGCCGCCCTGTGCTTCGCTTCCCTGGCC CTCTTCGTCGTGGGCTTCATCGTGGTCTCTTTCCCCTGCGGCTGGGGCTACATCGTGCTCAACGTGGCC GCTGGCTACCTGTACGGCTTCGTGCTGGCATGGGTCTGATGATGGTGGGCGTCCTCATCGGCACCTTC ATCGCCCATGTGGTCTGCAAGCGGCTCCTCACCGCCTGGGTGGCCGCCAGGATCCAGAGCAGCAGAAG CTGAGCGCGGTTATTCGCGTAGTGGAGGGAGGAAGCGGCCTGAAAGTGGTGGCGCTGGCCAGACTGACA CCCATACCTTTTGGGCTTCAGAATGCAGTGTTTTCGATTACTGATCTCTCATTACCCAACTATCTGATG GCATCTTCGGTTGGACTGCTTCCTACCCAGCTTCTGAATTCTTACTTGGGTACCACCCTGCGGACAATG GAAGATGTCATTGCAGAACAGAGTGTTAGTGGATATTTTGTTTTTGTTTACAGATTATTATAAAGTATA GGCCTCATGTTTTATGTAGTTCATCGAGCTCAAGTGGAATTGAATGCAGCTATTGTAGCTTGTGAAATG GAACTGAAATCTTCTCTGGTTAAAGGCAATCAACCAAATACCAGTGGCTCTTCATTCTACAACAAGAGG

ACCCTAACATTTTCTGGAGGTGGAATCAATGTTGTATGA

**ACGCGTACGCGCCCCTC**GAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT

TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC

**Restriction Sites:** Sgfl-Mlul

ACCN: NM 001008495



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## TMEM64 (NM\_001008495) Human Untagged Clone - SC301308

**Insert Size:** 1143 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: 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.

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:** <u>NM 001008495.3</u>

 RefSeq Size:
 4819 bp

 RefSeq ORF:
 1143 bp

 Locus ID:
 169200

 UniProt ID:
 Q6YI46

Cytogenetics: 8q21.3

**Protein Families:** Transmembrane

MW: 39.7 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 (1) represents the longer transcript and encodes the longer 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.