

Product datasheet for RC228256

TMEM64 (NM_001146273) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	TMEM64 (NM_001146273) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TMEM64
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC228256 representing NM_001146273 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCGGAGCCCGGGCGGGATCCTGCTCCAGGCGCTGCCCCGGCTGCTGCAGCACGCCGCCCTCCCGGGCC
TCGCCGAGCTGCCGGCCCGCTGGGCCCTGCCCGGGGTGCGGGCGGGGACGGCCCGCGGACCGCCCTCC
CCGCGGGGGCGGGCGAGCGCGCGCGGCAGCAGCGCGGCCCTCGGGCGCCCTGCTCGGCCTATCTG
GAGCGCCACGGTCCGCCGAGGCTTCGGAGCTGCCGGAGCCGGCGGGCCTTGGCGGGCGGCCCGGGA
GTGGCGGGCGCGCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT
CTGTTGGTGCCGAGCCTCGTGCTGGTCTGCGTGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT
CGCCGCTACCTTCACCACCTCCTGCTGTGGTGGAGAGCCTTGACTCGTCTGCTGGGGTCTGCTCTTCG
TCGTGGGCTTCATCGTGGTCTCTTTCCCTGCGCTGGGGCTACATCGTCTCAACGTGGCCGCTGGCTA
CCTGTACGGCTTCGTGCTGGCATGGTCTGATGATGGTGGGCTCCTCATCGGCACCTTCATCGCCAT
GTGGTCTGCAAGCGGCTCCTCACCCTGGTGGCCGCCAGGATCCAGAGCAGCGAGAAGCTGAGCGCGG
TTATTCGCGTAGTGGAGGAGGAAGCGCCTGAAAGTGGTGGCCTGGCCAGACTGACCCCATACCTTT
TGGCTTCAGAAATGCAGTGTTCGATTATTATAAGTATAGGCCTCATGTTTTATGTAGTTCATCGAGCT
CAAGTGAATGAATGCAGCTATTGTAGCTTGTGAAATGAACTGAAATCTTCTCTGGTTAAAGGCAATC
AACCAAATACCAGTGGCTCTTATTCTACAACAAGAGGACCCTAACATTTCTGGAGGTGAATCAATGT
TGTA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC228256 representing NM_001146273
Red=Cloning site Green=Tags(s)

MRSPPGILLQALPRLQHAALPGLAELPARWALPRGAGGDPADRLPRGGGASAAAAAASGALLGAYL
 ERHGPPEASELPEPGGALAGPGSGGGVVVGVAEVRNWRCCCLGSTCWCRSLVLCVLAALCFASLALV
 RRYLHLLLLWVESLDSLGLVLLFVVGFIIVSFPFCGWYIVLNVAAGLYGFFVLMGLMMVGVLIGTFIAH
 VVCKRLLTAWVAARIQSSEKLSAVIRVVEGGSLKVVALARLTPIPFGLQNAVFSIIISIGLMFYVVHRA
 QVELNAAIVACEMELKSSLVKGNQPNTSGSSFYNKRTLTFSGGGINNV

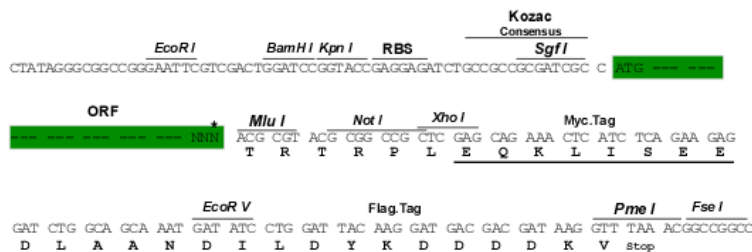
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg3871_d06.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001146273

ORF Size: 984 bp

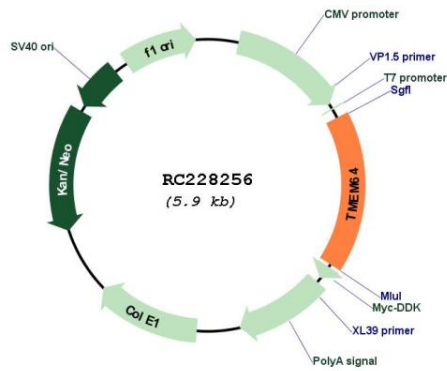
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

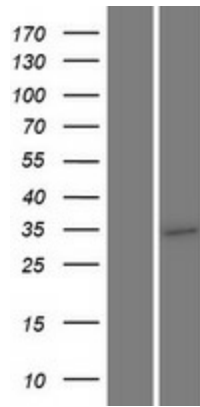
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	<ol style="list-style-type: none">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_001146273.1, NP_001139745.1</u>
RefSeq ORF:	987 bp
Locus ID:	169200
UniProt ID:	<u>Q6YI46</u>
Cytogenetics:	8q21.3
Protein Families:	Transmembrane
MW:	33.8 kDa
Gene Summary:	<p>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 CTNNA1.</p> <p>[UniProtKB/Swiss-Prot Function]</p>

Product images:



Circular map for RC228256



Western blot validation of overexpression lysate (Cat# [LY431284]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC228256 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).