

## Product datasheet for **RC228256L3V**

### TMEM64 (NM\_001146273) Human Tagged ORF Clone Lentiviral Particle

#### Product data:

Product Type:	Lentiviral Particles
Product Name:	TMEM64 (NM_001146273) Human Tagged ORF Clone Lentiviral Particle
Symbol:	TMEM64
Mammalian Cell Selection:	Puromycin
Vector:	pLenti-C-Myc-DDK-P2A-Puro (PS100092)
Tag:	Myc-DDK
ACCN:	NM_001146273
ORF Size:	984 bp
ORF Nucleotide Sequence:	The ORF insert of this clone is exactly the same as(RC228256).
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. <a href="#">More info</a>
OTI Annotation:	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
RefSeq:	<a href="#">NM_001146273.1</a> , <a href="#">NP_001139745.1</a>
RefSeq ORF:	987 bp
Locus ID:	169200
UniProt ID:	<a href="#">Q6YI46</a>
Cytogenetics:	8q21.3
Protein Families:	Transmembrane
MW:	33.8 kDa


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**Gene Summary:**

Positively regulates TNFSF11-induced osteoclast differentiation. Acts as a regulator of TNFSF11-mediated  $\text{Ca}(2+)$  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  $\text{Ca}(2+)$  spiking for activation of NFATC1 and production of mitochondrial ROS, thereby triggering  $\text{Ca}(2+)$  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]