

## Product datasheet for **MR225380L4V**

### Trpm2 (NM\_138301) Mouse Tagged ORF Clone Lentiviral Particle

#### Product data:

Product Type:	Lentiviral Particles
Product Name:	Trpm2 (NM_138301) Mouse Tagged ORF Clone Lentiviral Particle
Symbol:	Trpm2
Synonyms:	9830168K16Rik; C79133; LTRPC2; Trp7; TRPC7; Trrp7
Mammalian Cell Selection:	Puromycin
Vector:	pLenti-C-mGFP-P2A-Puro (PS100093)
Tag:	mGFP
ACCN:	NM_138301
ORF Size:	4521 bp
ORF Nucleotide Sequence:	The ORF insert of this clone is exactly the same as(MR225380).
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_138301.2</a> , <a href="#">NP_612174.2</a>
RefSeq Size:	7292 bp
RefSeq ORF:	4521 bp
Locus ID:	28240
UniProt ID:	<a href="#">Q91YD4</a>
Cytogenetics:	10 39.72 cM



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**Gene Summary:**

Nonselective, voltage-independent cation channel that mediates Na<sup>(+)</sup> and Ca<sup>(2+)</sup> influx, leading to increased cytoplasmic Ca<sup>(2+)</sup> levels (PubMed:11804595, PubMed:19454650, PubMed:21753080, PubMed:22493272). Functions as ligand-gated ion channel. Binding of ADP-ribose to the cytoplasmic Nudix domain causes a conformation change; the channel is primed but still requires Ca<sup>(2+)</sup> binding to trigger channel opening. Extracellular calcium passes through the channel and increases channel activity (By similarity). Also contributes to Ca<sup>(2+)</sup> release from intracellular stores in response to ADP-ribose (PubMed:21753080). Plays a role in numerous processes that involve signaling via intracellular Ca<sup>(2+)</sup> levels (PubMed:21753080). Besides, mediates the release of lysosomal Zn<sup>(2+)</sup> stores in response to reactive oxygen species, leading to increased cytosolic Zn<sup>(2+)</sup> levels (By similarity). Activated by moderate heat (35 to 40 degrees Celsius) (PubMed:27533035, PubMed:27562954). Activated by intracellular ADP-ribose, beta-NAD (NAD<sup>(+)</sup>) and similar compounds, and by oxidative stress caused by reactive oxygen or nitrogen species (PubMed:19454650, PubMed:21753080, PubMed:22493272). The precise physiological activators are under debate; the true, physiological activators may be ADP-ribose and ADP-ribose-2'-phosphate. Activation by ADP-ribose and beta-NAD is strongly increased by moderate heat (35 to 40 degrees Celsius) (By similarity). Likewise, reactive oxygen species lower the threshold for activation by moderate heat (37 degrees Celsius) (PubMed:22493272, PubMed:25817999). Plays a role in mediating behavioral and physiological responses to moderate heat and thereby contributes to body temperature homeostasis (PubMed:27533035, PubMed:27562954). Plays a role in insulin secretion, a process that requires increased cytoplasmic Ca<sup>(2+)</sup> levels (PubMed:20921208, PubMed:25817999). Required for normal IFNG and cytokine secretion and normal innate immune immunity in response to bacterial infection (PubMed:21709234). Required for normal phagocytosis and cytokine release by macrophages exposed to zymosan (in vitro) (PubMed:22493272). Plays a role in dendritic cell differentiation and maturation, and in dendritic cell chemotaxis via its role in regulating cytoplasmic Ca<sup>(2+)</sup> levels (PubMed:21753080). Plays a role in the regulation of the reorganization of the actin cytoskeleton and filopodia formation in response to reactive oxygen species via its function in increasing cytoplasmic Ca<sup>(2+)</sup> and Zn<sup>(2+)</sup> levels (By similarity). Confers susceptibility to cell death following oxidative stress (PubMed:25562606). [UniProtKB/Swiss-Prot Function]