

Product datasheet for **RR206806**

Trpm2 (NM_001011559) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Trpm2 (NM_001011559) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Trpm2
Synonyms: Trpm2-predicted
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR206806 representing NM_001011559
Red=Cloning site Blue=ORF Green=Tags(s)

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Protein Sequence: >RR206806 representing NM_001011559
 Red=Cloning site Green=Tags(s)

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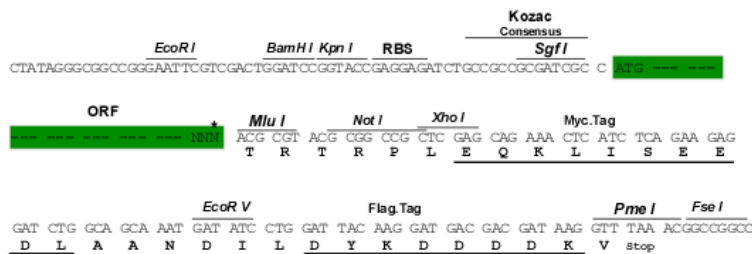
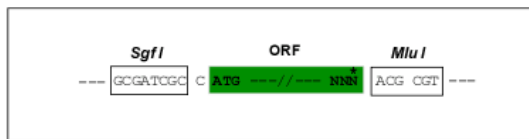
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Restriction Sites:

SgfI-MluI

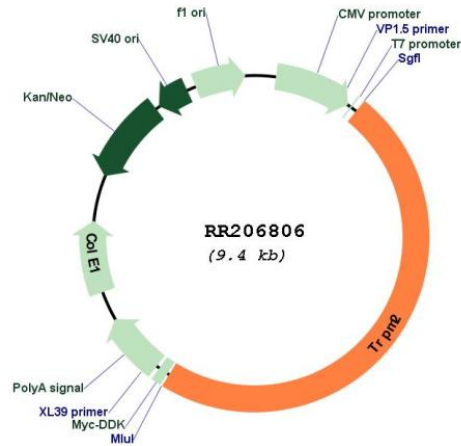
Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_001011559

ORF Size: 4524 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in *E. coli* are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_001011559.1, NP_001011559.1</u>
RefSeq Size:	4527 bp
RefSeq ORF:	4527 bp
Locus ID:	294329
UniProt ID:	<u>E9PTA2</u>
Cytogenetics:	20p12
MW:	172.3 kDa

Gene Summary:

Nonselective, voltage-independent cation channel that mediates Na⁽⁺⁾ and Ca⁽²⁺⁾ influx, leading to increased cytoplasmic Ca⁽²⁺⁾ levels (PubMed:16651700, PubMed:16260005, PubMed:11804595, PubMed:16601673, PubMed:19454650). 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⁽²⁺⁾ binding to trigger channel opening. Extracellular calcium passes through the channel and increases channel activity (By similarity). Also contributes to Ca⁽²⁺⁾ release from intracellular stores in response to ADP-ribose (PubMed:19454650). Plays a role in numerous processes that involve signaling via intracellular Ca⁽²⁺⁾ levels (Probable). Besides, mediates the release of lysosomal Zn⁽²⁺⁾ stores in response to reactive oxygen species, leading to increased cytosolic Zn⁽²⁺⁾ levels (PubMed:25562606). Activated by moderate heat (35 to 40 degrees Celsius) (PubMed:16601673). Activated by intracellular ADP-ribose, beta-NAD (NAD⁽⁺⁾) and similar compounds, and by oxidative stress caused by reactive oxygen or nitrogen species (PubMed:16260005, PubMed:16601673, PubMed:25562606). 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). Plays a role in mediating behavioral and physiological responses to moderate heat and thereby contributes to body temperature homeostasis. Plays a role in insulin secretion, a process that requires increased cytoplasmic Ca⁽²⁺⁾ levels (PubMed:16601673). Required for normal IFNG and cytokine secretion and normal innate immune immunity in response to bacterial infection. Required for normal phagocytosis and cytokine release by macrophages exposed to zymosan (in vitro). Plays a role in dendritic cell differentiation and maturation, and in dendritic cell chemotaxis via its role in regulating cytoplasmic Ca⁽²⁺⁾ levels (By similarity). 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⁽²⁺⁾ and Zn⁽²⁺⁾ levels (By similarity). Confers susceptibility to cell death following oxidative stress (PubMed:16651700, PubMed:11804595, PubMed:19454650, PubMed:25562606). [UniProtKB/Swiss-Prot Function]