

Product datasheet for **RN206806**

Trpm2 (NM_001011559) Rat Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Trpm2 (NM_001011559) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Trpm2
Synonyms:	Trpm2-predicted
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Fully Sequenced ORF:	>RN206806 representing NM_001011559 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGAGCCCTTGGACCAGAGAAGAAGTACTCTGATCAAGAGGAGGGCTTTGGGGTGCAGTCCCGGAGGG
CCACTGATCTGGGCATGGTCCCCAATCTCCGACGAAGCAATAGCAGTCTTTGCAAGAGCAGGAGGCTTCT
GTGCTCCTTCAGCAGTGAGAAGCAAGAAAACCTTAGCTCATGGATTCCCGAGAACATCAAGAAGAAGGAA
TGTGTGATTTTCGTGAAAGTTCCAAGCTCTCGGATGCAGGGAAGGTAGTGTGTGAGTGTGGTTACACCC
ACGAGCAGCACATTGAAGTGGCCATCAAGCCTCACACCTCCAGGCAAGGAGTGGGACCCAAAGAAACA
CGTCCATGAGATGCCTACAGATGCCTTTGGTGACATTGTCTTACCGGCCCTGAGCCAGAAAGTGGGGAAG
TATGTCCGACTCTCCAGGACACGTCGTCATTGTTCATCTACCAGCTTATGACACAGCACTGGGGCCTGG
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CATCTTCCGGAGAGGCCTGGTTAAGGTGGCCAAACCACGGGGCCTGGATCATCACTGGGGTTCCACAC
ACCGGTGTGATGAAGCAGGTGGGCGAGGCGGTACGGGACTTCAGCCTAAGCAGCAGCTGCAAGAAGGCG
ACGTATCACCATCGGCATAGCCACGTGGGGCACCATCCACAACCGTGAGGCACTGATCCATCCCATGGG
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TCCCATTATCCTGGTGGATGATGGGACCCACGGGCAGTATGGTGTGGAGATTCCGCTGAGGACTAAGC
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ATAGTGGAGGGCTCCGGCCGAGTGGCTGACGTCATCGCTCAGGTGGCCGCTCTGCCGCTCTGAGATCA
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GATTGTGGAATGGACAAAAGATCCAAGATATTGTCAGGAGGCGGAGCTGCTGACGGTCTTCCGGGAA
GGCAAGGATGGTCAGCAGGATGTGGATGTTGCCATTCTGCAAGCTTTACTGAAAGCCTCTCGAAGCCAAG
ATCACTTCGGCCACGAGAAGTGGGACCATCAGCTGAAGCTGGCCGTGGCCTGGAACCGTGTGGACATCGC
CCGAGTGAATCTTCACTGATGAGTGGCAGTGAAGCCTTCAGACCTGCATCCCATGATGACAGCTGCC



CTCATCTCCAACAAGCCTGAGTTTGTGAGGCTCTTTCTGGAGAACGGGGTGCGGCTGAAGGAGTTTGTCA
 CCTGGGATACTTCTCTGCCTCTACGAGAACCTGGAGCCATCCTGCCTTTCCACAGCAAGCTGCAGAA
 GGTGCTGGCAGAAGAGCATGAACGCTTAGCCTATGCATCTGAGACACCCCGGCTGCAAAATGCACCACGTG
 GCCCAGGTGCTGCGTGAGCTCCTCGGAGACTCCACACAGCTGCTGTATCCCCGGCCCCGGTACACTGACC
 GGCCACGGCTCTCGTGCCCATGCCACACATCAAACCTCAACGTGCAAGGAGTGAGCCTCCGGTCTCTCTA
 TAAGCGATCAACAGGCCACGTTACCTTCACCATTGACCCAGTCCGCGATCTTCTCATTGGGCCATCATC
 CAGAACCACAGGGAGCTGGCGGGCATCATCTGGGCTCAGAGCCAGGACTGCACAGCAGCCGCACTGGCCT
 GCAGCAAGATCCTGAAGGAGCTGTCCAAGGAGGGAAGATACAGACAGCTCTGAGGAGATGCTGGCACT
 CCGCGATGAGTTTGGATAGAGCTATCGGTGTCTTACCAGAGTGTACAGAAAGGATGAGGAAAGAGCC
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 AGGACATGAAATTCGTGTCTCACGGAGGGATCCAGGCTTCTCAACGAAGGTGTGGTGGGGTCTGCTCTG
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 TCCTTCAGGAAAAGAGGCTGCAGGCACTGTGCCGCCGGCCCGCTCCGCGCTTCTTCAACGCGCCGG
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 GAGACACGGCAGCTATTCTACGATCCCAGTGGCTGCGGGCTCATGAAGATGGCGTCCCTGTACTTCAAGT
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 AGCGACGCTGTACCCTGGGCGCATCATCTGTCTTTGGACTTCAATATGTTCTGCCTCCGCTCATGCAC
 ATCTTCACCATTAGCAAGACACTGGGGCCCAAGATAATCATCGTGAAGCGGATGATGAAGGACGCTTCT
 TCTTCTCTTTCTCCTGGCGGTGTGGTGGTGTCTTCGGAGTGGCAAGCAGGCCATCCTCATCCACAA
 TGAGAGCCCGTGGACTGGATCTTCCGCGGAGTTATCTATCACTTACCTTACCATCTTCGGGCAGATC
 CCGACCTACATTGACGGCGTGAATTTAGCATGGACCAGTGCAGCCCCAATGGTACAGACCCCTACAAGC
 CCAAGTCTCTGAGAGTACTGGACAGGCAAGGACCCGCTTCCCCGAGTGGCTGACAGTACCCTTCT
 CTGCCTCTACCTGCTCTTCGCCAACATCCTGTGCTTAATTTGCTCATCGCCATGTTCAACTACACCTTC
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 GCCGGCCCCGGCCCTCCCCACTCATCTCCTCAGCCACCTGCAGCTCCTGATCAAGAGGATTGTCT
 GAAGATCCCCGCCAAGAGGCACAAGCAGCTCAAGAACAAGCTGGAGAAGAATGAGGAGGCAGCCCTCCTG
 TCCTGGGAGCTCTACCTGAAGGAGAATTACCTGCAGAACCAACAGTACCAGCACAAAACAGCGCCAGAGC
 AGAAGATCCAGGACATCAGTGAGAAAGTGGACACCATGGTGGATCTGTTGGACATGGACCGTGTGAAGAG
 ATCAGGCTCCACAGAGCAGAGGCTGGCCTCCCTTGAGGAACAGGTGACTCAGATGGGCAGATCTTGCAC
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 GGGCTTCGACGAGCCAGATGCTGAGCTGAGTATCAGGAAGAAAGGAGAGGGAGGAGATGGCTATCA
 TGTGAGCGCCCGCACCTCCTTACCCTGATGCCCGCATCATGCGCTTCCCCGTGCCTAATGAGAAGGTG
 CCTTGGGAGGCAGAGTTTCTGATCTACGACCTCCGTTTTACACAGCTGAGAAGAAGGATGCGACTCTCA
 CAGACCTGTGGGAGACTGCAGAACCTCTGTCTAAGATCAATTACAACGTCGTGGACGGACTGATGGA
 CCGTTGCAGCTTCCATGGGACCTATGTGGTCCAATATGGATTCCCTTTGAACCCATGGGCCGACCCGGG
 TTGCGTGGTCTGGGAGCCTCAGCTGGTTTGGTCCCAACCACACTCTGCAGCCAGTGTGTACCCGGTGA
 AGAGGAACCAGGTGGAGGCATCTGCCGAAGAGTGTGAGGAAGATGTTGGAGGTGCTGGTATGAAGTT
 GCCTCAATCCGAGCACTGGCCCTTGCCTGGGGCTCTCGGGAGCCAGGGAAGTGTACCACGGAAGCTG
 AAACAGGTCTCCAGCAGGAGTACTGGGTGACCTTTGAGACCTTGCTAAGGCAAGGTACAGAGGTGTACA
 AAGGATACGTGGATGACCAAGGAACACGACAATGCCTGGATCGAGACGGTGGTGTGAGCATCCATTT
 CCAGGACCAGAATGATGTGGAGCTGAAGAGGCTGGAAGAGAACCTGCAAACCTCATGATCCAAAGGAGTCG
 GCCCGTGGCTGGAGATGTCTACTGAATGGCAGGTTGTAGACCGCGGATCCCTCTGTATGTGAACCACA
 AGAAGATCCTCCAAAAGGTGGCCTCGCTGTTTGGCGCTCACTTCTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Chromatograms: https://cdn.origene.com/chromatograms/ja1837_h06.zip

Restriction Sites: SgfI-MluI

ACCN: NM_001011559

Insert Size:	4527 bp
OTI Disclaimer:	<p>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.</p> <p>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</p>
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:	NM_001011559.1 , NP_001011559.1
RefSeq Size:	4527 bp
RefSeq ORF:	4527 bp
Locus ID:	294329
UniProt ID:	E9PTA2
Cytogenetics:	20p12

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]