

## Product datasheet for **MG226813**

### Trpv4 (NM\_022017) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Trpv4 (NM_022017) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Trpv4
Synonyms:	0610033B08Rik; OTRPC4; Trp12; VR-OAC; VRL-2; VROAC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide  
Sequence:

>MG226813 representing NM\_022017  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCAGATCCTGGTGATGGTCCCCGTGCAGCGCCTGGGGAGGTGGCTGAGCCCCCTGGAGATGAGAGTG  
 GTACCTCTGGTGGGAGGCCTTCCCCCTCTCTCCCTGGCCAATCTGTTTGGAGGGGAGGAAGGCTCCTC  
 TTCTCTTTCCCCGGTGGATGCTAGCCGCCCTGCTGGCCCTGGCGATGGACGTCCAAACCTGCGTATGAAG  
 TTCCAGGGCGCTTCCGCAAGGGGGTACCCAACCCATTGACCTGTTGGAGTCCACCCTGTACGAGTCTCT  
 CAGTAGTGCCTGGGCCAAGAAAGCGCCATGGATTCTTGTTCGACTACGGCACTTACCCTCACCACCC  
 CAGTGACAACAAGAGATGGAGGAGAAAGGTCGTGGAGAAGCAGCCACAGAGCCCCAAAGCTCCTGCACCC  
 CAGCCACCCCTCCTCAAAGTCTTCAATCGGCCATCCTCTTTGACATTGTGTCCCGGGCTCCACTG  
 CGGACCTAGATGGACTGCTCCTTCTTGTGACCCACAAGAAGCGCCTGACTGATGAGGAGTCCGGGA  
 GCCGTCCACGGGAAGACCTGCCTGCCAAGCGCTGCTGAACCTAAGCAACGGGCGCAACGACACCATC  
 CCGGTGTTGCTGGACATTGCGGAGCGCACCGGCAACATGCGTGAATTCATCAACTCGCCCTTCAGAGACA  
 TCTACTACCGAGGCCAGACATCCCTGCACATTGCCATCGAACGGCGCTGCAAGCACTACGTGGAGCTGCT  
 GGTGGCCAGGGAGCCGACGTGCACGCCAGGCCCGCGGCCGCTTCTTCCAGCCCAAGGATGAGGGAGGC  
 TACTTCTACTTTGGGAGCTGCCCTTGTCCCTGGCAGCCTGCACCAACCAGCCGACATCGTCAACTACC  
 TGACAGAGAACCCTCACAAAGAAAGCTGACATGAGGCGACAGGACTCGAGGGGGAACCGGTGCTGCACGC  
 GCTGGTGGCCATCGCCGACAACACCCGAGAGAACCAAGTTTGTACCAAGATGACGACCTGCTGCTT  
 CTCAAGTGTTCACGCCTTCCCCGACAGCAACCTGGAGACAGTCTCAACAATGATGGCCTTTCGCCTC  
 TCATGATGGCTGCCAAGACAGGCAAGATCGGGTCTTTTCAGCACATCATCCGACGTGAGGACTGAGATGA  
 GGACACCCGGCATCTGTCTCGCAAGTTCAAGGACTGGGCCTATGGCCTGTGTATTCTTCTCTACGAC  
 CTCTCCTCCCTGGACACATGCGGGAGGAGGTGTCGTGCTGGAGATCCTGGTGTACAACAGCAAGATCG  
 AGAACCCGATGAGATGCTGGTGTAGAGCCATTAACGAACTGTTGAGAGACAAGTGGCGTAAGTTTGG  
 GGCTGTGCTCTTACATCAACGTGGTCTCCTATCTGTGTGCCATGGTCACTTACCCTCACCGCCTAC  
 TATCAGCCACTGGAGGGCAGCCACCCTACCCTTACCGGACCACAGTGGACTACCTGAGGCTGGCTGGCG  
 AGGTCAACAGCTCTTACAGGAGTCTGTTCTTCTTTACCAGTATCAAAGACTTGTTCACGAGAAATG  
 CCCTGGAGTGAATTCTCTCTTCGTGATGGCTCCTTCCAGTACTCTACTCTACTCTGTGCTGGT  
 GTTGTCTCTGCGCGCTCTACCTGGCTGGGATCGAGGCCTACCTGGCTGTGATGGTCTTTCGCCTGGTCC  
 TGGGCTGGATGAATGCGCTGTACTTCACGCGCGGTTGAAGCTGACGGGGACCTACAGCATCATGATTC  
 GAAGATCCTCTTCAAAGACCTTCCGCTTCTGCTTGTGTACCTGCTCTTCATGATCGGCTATGCCTCA  
 GCCCTGGTCAACCTCCTGAATCCGTGCACCAACATGAAGGTCTGTGACGAGGACCAGAGCAACTGCACGG  
 TGCCCCAGTATCCTGCGTGCCGCGACAGCGAGACCTTCAGCGCCTTCTCCTGGACCTTCAAGCTCAC  
 CATCGGCATGGGAGACCTGGAGATGCTGAGCAGCGCAAGTACCCCGTGGTCTTCATCCTCCTGTGGTC  
 ACCTACATCATCCTCACCTTCGTGCTCCTGTTGAACATGCTTATCGCCCTCATGGGTGAGACCGTGGGC  
 AGGTGTCCAAGGAGAGCAAGCACATCTGGAAGTTGCAGTGGGCCACCACCATCCTGGACATCGAGCGTTC  
 CTCCCTGTGTTCTGAGGAAGGCCTCCGCTCCGGAGAGATGGTACTGTGGCAAGAGCTCAGATGGC  
 ACTCCGGACCGCAGGTGGTGTCTCAGGGTGGACGAGGTGAACTGGTCTCACTGGAACAGAACTTGGGCA  
 TCATTAACGAGGACCCTGGCAAGAGTGAATCTACCAGTACTATGGCTTCTCCACACCCTGGGGCGCCT  
 TCGTAGGGATCGTTGGTCTCGGTGGTCCCGCGTAGTGGAGCTGAACAAGAACTCAAGCGCAGATGAA  
 GTGGTGGTACCCCTGGATAACCTAGGGAACCCCAACTGTGACGGCCACCAGCAGGGCTACGCTCCCAAGT  
 GGAGGACGGACGATGCCCACTG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG226813 representing NM\_022017  
 Red=Cloning site Green=Tags(s)

MADPGDGPRAAPGEVAEPPGDESGTSGGEAFPLSSLANLFEGEEGSSSLSPVDASRPAGPGDGRPNLRMK  
 FQGAFRKGVNPNIDLLESTLYESSVVPKPKAPMDSLFDYGTYRHHPSDNKRWRKVVVEKQSPKAPAP  
 QPPPILKVFNRPIILFDIVSRGSTADLDGLLSFLTHKKRLTDEEFREPSTGKTCCLKALLNLSNGRNDTI  
 PVLLDIAERTGNMREFINSPFRDIYYRGQTSLHIAIERRCKHYVELLVAQGADVHAQARGRFFQPKDEGG  
 YFYFGEPLSLAACTNQHIVNYLTENPHKKADMRRQDSRGNTVLHALVAIADNTRENTKFTKMYDLLL  
 LKCSRLFPDSNLETVLNNDGLSPLMMAAKTGKIGVFQHIIRREVTDEDTRHLSRKFWDWAYGPVYSSLYD  
 LSSLDTCGEEVSLEILVYNSKIENRHEMLAVEPINELLRDKWRKFGAVSFYINVVSYLCAMVIFTLTAY  
 YQPLEGTPPYRTTVDYLRAGEVITLFTGVLFFFTSIKDLFTKKCPGVNSLFDVDSFQLLYFYISVLV  
 VVSAALYLAGIEAYLAVMVFALVLGWMNALYFTRGLKLTGTYSIMIQKILFKDLFRLLVYLLFMIGYAS  
 ALVTLNPNCTNMKVCDQSNCTVPTYPACRDSETFSAFLLDLFKLTIGMGDLEMLSSAKYPVVFILLLV  
 TYIILTFVLLNMLIALMGETVGQVSKESKHIWKLQWATTILDIERSFVFLRKAFRSGEMVTGKSSDG  
 TPDRRWCFRVDEVNWSHWNLGIINEDPGKSEIYQYGF SHTVGRLRRDRWSSVPRVVELNKNSSADE  
 VVPLDNLGNPNCDGHQGYAPKWRTDDAPL

TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

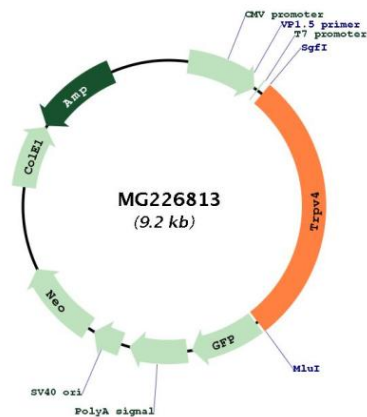
Cloning Scheme:



<b>ACCN:</b>	NM_022017
<b>ORF Size:</b>	2613 bp
<b>OTI Disclaimer:</b>	<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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> 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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_022017.3</a> , <a href="#">NP_071300.2</a>
<b>RefSeq Size:</b>	3247 bp
<b>RefSeq ORF:</b>	2616 bp
<b>Locus ID:</b>	63873
<b>UniProt ID:</b>	<a href="#">Q9EPK8</a>
<b>Cytogenetics:</b>	5 F

**Gene Summary:**

Non-selective calcium permeant cation channel involved in osmotic sensitivity and mechanosensitivity (PubMed:11094154). Activation by exposure to hypotonicity within the physiological range exhibits an outward rectification (PubMed:12093812, PubMed:14691263, PubMed:16368742, PubMed:16571723). Also activated by heat, low pH, citrate and phorbol esters (PubMed:14691263). Increase of intracellular Ca(2+) potentiates currents. Channel activity seems to be regulated by a calmodulin-dependent mechanism with a negative feedback mechanism (By similarity). Acts as a regulator of intracellular Ca(2+) in synoviocytes (By similarity). Plays an obligatory role as a molecular component in the nonselective cation channel activation induced by 4-alpha-phorbol 12,13-didecanoate and hypotonic stimulation in synoviocytes and also regulates production of IL-8 (By similarity). Together with PKD2, forms mechano- and thermosensitive channels in cilium (PubMed:18695040). Promotes cell-cell junction formation in skin keratinocytes and plays an important role in the formation and/or maintenance of functional intercellular barriers (PubMed:20413591). Negatively regulates expression of PPARGC1A, UCP1, oxidative metabolism and respiration in adipocytes (PubMed:23021218). Regulates expression of chemokines and cytokines related to proinflammatory pathway in adipocytes (PubMed:23021218). Together with AQP5, controls regulatory volume decrease in salivary epithelial cells (PubMed:16571723). Required for normal development and maintenance of bone and cartilage (By similarity).[UniProtKB/Swiss-Prot Function]

**Product images:**

Circular map for MG226813