

Product datasheet for **MR226813**

Trpv4 (NM_022017) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Trpv4 (NM_022017) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Trpv4
Synonyms:	0610033B08Rik; OTRPC4; Trp12; VR-OAC; VRL-2; VROAC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide
Sequence:

>MR226813 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCAGATCCTGGTGATGGTCCCCGTGCAGCGCCTGGGGAGGTGGCTGAGCCCCCTGGAGATGAGAGTG
 GTACCTCTGGTGGGAGGCCTTCCCCCTCTTCCCTGGCCAATCTGTTTGGAGGGGAGGAAGGCTCCTC
 TTCTCTTTCCCCGGTGGATGCTAGCCGCCCTGCTGGCCCTGGCGATGGACGTCCAAACCTGCGTATGAAG
 TTCCAGGGCGCTTCCGCAAGGGGGTACCCAACCCATTGACCTGTTGGAGTCCACCCTGTACGAGTCTT
 CAGTAGTGCCTGGGCCAAGAAAGCGCCATGGATTCTTGTTCGACTACGGCACTTACCCTCACCACCC
 CAGTGACAACAAGAGATGGAGGAGAAAGGTCGTGGAGAAGCAGCCACAGAGCCCCAAAGCTCCTGCACCC
 CAGCCACCCCTCCTCAAAGTCTTCAATCGGCCATCCTCTTTGACATTGTGTCCCGGGGCTCCACTG
 CGGACCTAGATGGACTGCTCCTTCTTGTGACCCACAAGAAGCGCCTGACTGATGAGGAGTCCGGGA
 GCCGTCCACGGGAAGACCTGCCTGCCAAGGCGCTGCTGAACCTAAGCAACGGGCGCAACGACACCATC
 CCGGTGTTGCTGGACATTGCGGAGCGCACCGGCAACATGCGTGAATTCATCAACTCGCCCTTCAGAGACA
 TCTACTACCGAGGCCAGACATCCCTGCACATTGCCATCGAACGGCGCTGCAAGCACTACGTGGAGCTGCT
 GGTGGCCAGGGAGCCGACGTGCACGCCAGGCCCGCGGCCGCTTCTTCCAGCCCAAGGATGAGGGAGGC
 TACTTCTACTTTGGGAGCTGCCCTTGTCCCTGGCAGCCTGCACCAACCAGCCGACATCGTCAACTACC
 TGACAGAGAACCCTCACAAAGAAAGCTGACATGAGGCGACAGGACTCGAGGGGGAACACGGTGTGCACGC
 GCTGGTGGCCATCGCCGACAACACCCGAGAGAACCAAGTTTGTACCAAGATGTACGACCTGTGCTT
 CTCAAGTGTTCACGCCTTCCCCGACAGCAACCTGGAGACAGTCTCAACAATGATGGCCTTTCGCCTC
 TCATGATGGCTGCCAAGACAGGCAAGATCGGGTCTTTTCAGCACATCATCCGACGTGAGGACATGAGAT
 GGACACCCGGCATCTGTCTCGCAAGTTCAAGGACTGGGCCATATGGGCCTGTGTATTCTTCTCTACGAC
 CTCTCCTCCCTGGACACATGCGGGAGGAGGTGTCGTGCTGGAGATCCTGGTGTACAACAGCAAGATCG
 AGAACCCGATGAGATGCTGGCTGTAGAGCCATTAACGAACTGTTGAGAGACAAGTGGCGTAAGTTTGG
 GGCTGTGCTCTTACATCAACGTGGTCTCCTATCTGTGTGCCATGGTCACTTACCCTCACCCTAC
 TATCAGCCACTGGAGGGCAGCCACCCTACCCTTACCGGACCACAGTGGACTACCTGAGGCTGGCTGGCG
 AGGTCAACAGCTCTTACAGGAGTCTGTTCTTCTTTACCAGTATCAAAGACTTGTTCACGAGAAGT
 CCCTGGAGTGAATTCTCTCTTCGTGATGGCTCCTTCCAGTACTCTACTTACTCTGTGCTGGT
 GTTGTCTCTGCGCGCTCTACCTGGCTGGGATCGAGGCCTACCTGGCTGTGATGGCTTTGCCCTGGTCC
 TGGGCTGGATGAATGCGCTGTACTTCACGCGCGGTTGAAGCTGACGGGGACCTACAGCATCATGATTC
 GAAGATCCTCTTCAAAGACCTTCCGCTTCTGCTTGTGTACCTGCTTTCATGATCGGCTATGCCTCA
 GCCCTGGTCAACCTCCTGAATCCGTGCACCAACATGAAGGTCTGTGACGAGGACCAGAGCAACTGCACGG
 TGCCACAGTATCCTGCGTGCCGCGACAGCGAGACCTTCAGCGCCTTCTCCTGGACCTTCAAGCTCAC
 CATCGGCATGGGAGACCTGGAGATGCTGAGCAGCGCAAGTACCCCGTGGTCTTCATCCTCCTGTGGTC
 ACCTACATCATCCTCACCTTCGTGCTCCTGTTGAACATGCTTATCGCCCTCATGGGTGAGACCGTGGGC
 AGGTGTCCAAGGAGAGCAAGCACATCTGGAAGTTGCAGTGGGCCACCACCATCTGGACATCGAGCGTTC
 CTCCCTGTGTTCTGAGGAAGGCCTCCGCTCCGGAGAGATGGTACTGTGGCAAGAGCTCAGATGGC
 ACTCCGACCGCAGGTGGTGTCTCAGGGTGGACGAGGTGAACTGGTCTCACTGGAACAGAACTTGGGCA
 TCATTAACGAGGACCCTGGCAAGAGTGAATCTACCAGTACTATGGCTTCTCCACACCGTGGGCGCCT
 TCGTAGGGATCGTTGGTCTCGGTGGTGCCTCGGTAGTGGAGCTGAACAAGAACTCAAGCGCAGATGAA
 GTGGTGTACCCCTGGATAACCTAGGGAACCCAACTGTGACGGCCACCAGCAGGGCTACGCTCCCAAGT
 GGAGGACGGACGATGCCCACTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR226813 protein sequence
 Red=Cloning site Green=Tags(s)

MADPGDGPRAAPGEVAEPPGDESGTSGGEAFPLSSLANLFEGEEGSSSLSPVDASRPAGPGDGRPNLRMK
 FQGAFRKGVNPNIDLLESTLYESSVVPKPKAPMDSLFDYGYRHHPSDNKRWRKVVVEKQPQSPKAPAP
 QPPPILKVFNRPIFLDIVSRGSTADLDGLSFLHTHKRLTDEEFREPSTGKTCCLKALLNLSNGRNDTI
 PVLLDIAERTGNMREFINSPFRDIYYRGQTSLHIAIERRCKHYVELLVAQGADVHAQARGRFFQPKDEGG
 YFYFGELPLSLAACTNQPHIVNYLTENPHKKADMRRQDSRGNTVLHALVAIADNTRENTKFTKMYDLLL
 LKCSRLFPDSNLETVLNNDGLSPLMMAAKTGKIGVFQHIIRREVTDEDTRHLSRKFWDWAYGPVYSSLYD
 LSSLDTCGEEVSLEILVYNSKIENRHEMLAVEPINELLRDKWRKFGAVSFYINVVSYLCAMVIFTLAY
 YQPLEGTPPYPYRTTVDYLRAGEVITLFTGVLFFFTSIKDLFTKKCPGVNSLFVDGSFQLLYFYISVLV
 VVSAALYLAGIEAYLAVMVFALVLGWMNALYFTRGLKLTGTYSIMIQKILFKDLFRLLVYLLFMIGYAS
 ALVTLLNPCTNMKVCDEQSNCTVPTYACRDSETFSAFLLDLFKLTIGMGDLEMLSSAKYPVVFILLLV
 TYIILTFVLLNMLIALMGETVGQVSKESKHIWKLQWATTILDIERSFVFLRKAFRSGEMVTGKSSDG
 TPDRRWCFRVDEVNWSHWNLGIINEDPGKSEIYQYYGFSHTVGRLRRDRWSSVPRVVELNKNSSADE
 VVYPLDNLGNPNCDSGHQGYAPKWRTDDAPL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

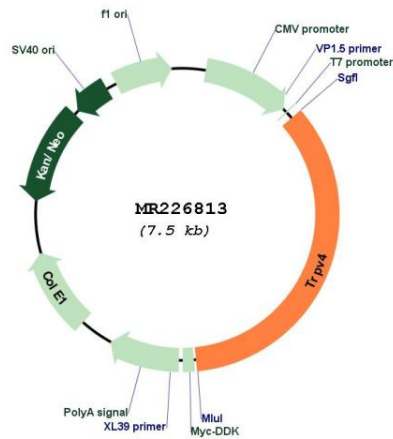
Cloning Scheme:



ACCN:	NM_022017
ORF Size:	2616 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>
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:	NM_022017.1 , NM_022017.2 , NM_022017.3 , NP_071300.2
RefSeq Size:	3247 bp
RefSeq ORF:	2616 bp
Locus ID:	63873
UniProt ID:	Q9EPK8
Cytogenetics:	5 F
MW:	98 kDa

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 MR226813