

## Product datasheet for **MR219221**

### Otop1 (NM\_172709) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Otop1 (NM_172709) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Otop1
Synonyms:	A530025J20Rik; Otp1; tlt
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>MR219221 representing NM\_172709  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGCCTGGGGGCCGGGGCGCCCTCTTCTCCCGCAGCATCCTCAGGCTCCTCGCGTGCCGCGCCGTCGG  
 GGATCGCGGCATGCCCTCTGTCCCACCTCCCCTAGCCGAGGGTCTCCACAAGCTTCCGGTCCCCGGCG  
 CGGCGCCAGCGTCCCGCAGAAGCTGGCGGAGACTCTGAGCAGCCAGTATGGACTGAACGTGTTCTGTGGCG  
 GGGCTGCTGTTCTGTGGCTGGGCGGTGCACGCGACGGGTGTGGGCAAGAGCGACCTGCTGTGCGTTC  
 TAACCGCGCTTATGCTGCTGCAGCTGCTCTGGATGCTGTGGTACGTGGTTCGAGCTACATGCAGCGCCG  
 CCTCATCCGCCCAAGGACACGCACGCGGGTGCAGCTGGCTTCGCGGAAGCATCACGTTGTTCCGCTTT  
 ATCACTGTCGCTGGGATGCTTAAAGTCGCATACTTCATTGGATTCTCGGAGTCTTGCAGCCACCG  
 AGGGAGTTTTCCAGTACCCATGCAGTGCATACCCTATTGCAGGTGATTTCTCTGGGCCATGCTAA  
 GGATATCATCATGTCTTTCAAAACTGGAAAGTTTGGGGTATCCATTCAAGTGTTCACGAACCTCCTA  
 CTGTGGGCCAACAGCGTCTGAATGAATCAAAGCACAGCTGAATGAGCACAAGGAACGGCTGATCACTC  
 TGGGCTTTGGCAACATCACCATCGTTTTGGATGACCACACACCACAGTGAACGACACACCCGCCCT  
 CTGCTCTGCCCTCTCCATGGGATTTACTATCTGTACCCCTTCAACATTGAGTACCAGATCCTGGCCTCG  
 ACCATGCTCTACGTGCTGTGGAAGAATCGGGCGCAGAGTGGACAGCTCCCAGCACAGAAGATGCAGT  
 GCAGATTGCAGCGGGTCTAGTGGGCTCCGTGCTGGGCTTGACAGTGTGGCTGCCACCATCGCCGTGGT  
 TGTGGTGTACATGATCCACATCGGGCGCTCAAATCCAAGAGCGAGTCCGCTCTCATCATGTTCTATTTG  
 TACGCTATCACGGTGTCTGCTTATGGGGCCGCAAGGCTAGTCGGAAGCTGGATTTACAGGGTGGATG  
 AGAAGTCTGGATGAGTCAAAGAACCACGCGCAAGCTGGATGTTGACCTGTTGGTGGCCACCGGCTC  
 CGGCTCTGGCTCTCTCTGGGCTCCATTCTGGCCATCGCCTGTGCTGAGACTCGCCACCGTACACC  
 TGGTACAACCTGCCCTACTCGGTCTGGTATCGTGGAGAAGTATGTCCAAAACATTTTCATCATCGAGT  
 CCGTGCACCTCGAGCCTGAGGGGTCCCGGAGGATGTGCGCACTCTGCGTGTGGTACCCTCTGCAGCAG  
 CGAGGCTGCCGACTGGCTGCATCCACTCTCGGGAGCCAGGGATGGCCAGGATGGGTACCTGCTGTC  
 AATGGAATCTGTGCTGCAGCAGAGGTGTGGAAAGAGGACCAGGAGTCTGGCTGGGAAGGAGCTACGG  
 GGACAACCGATGCTGGACTTCTTACGGGCGCATGAAGAGGAGGCTTCTCAGAAACATCACGGCCTT  
 TCTGTTTCTTGAACATCTCGCTTTGGATTCCCCTGCCTTTGGCTGCCGTCCCGAGTATGACAACGGA  
 TTGGAGGAAATTGCTTTGGCTTTGAACCTGGATAATTGTGGTCAACCTGGCCATGCCCTTTCCATT  
 TCTACCGATGCACGAGCTGCTGCCCTTTGAGGTCTATTGTAAGATC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR219221 representing NM\_172709  
 Red=Cloning site Green=Tags(s)

MPGGPAPSSPAASSGSSRAAPSGIAACPLSPPPLARGSPQASGPRRGASVPQKLAETLSSQYGLNVFVA  
 GLLFLLAWAVHATGVGKSDLLCVLTALMLLQLLWMLWYVGRSYMQRRLIRPKDTHAGARWLRSITLFAF  
 ITVVLGCLKVAYFIGFSECLSAIEGVFPVTHAVHTLLQVYFLWGHAKDIIMSFKTLERFGVIHVSFTNLL  
 LWANSVLNESKHLNEHKERLITLGFGNITIVLDDHTPQCNTPPALCSALSHGIYYLYPFNIEYQILAS  
 TMLYVLWKNIGRRVDSSQHQMQRFDGVLVGSVGLTVAATIAVVVVYMIHIGRSKSKSESALIMFYL  
 YAITVLLLMGAAGLVGSWIYRVDEKSLDESKNPARKLDVDLLVATGSGSWLLSWGSILAIACAETRPPYT  
 WYNLPYSVLVIVEKYVQNIIFIIESVHLEPEGVPEVRTL RVVTVCSSEAAALAASTLGSQMAQDGS  
 PAVNGNLCLQQRCKEDQESGWEGATGTRCLDFLQGGMKRLLRNITAFLLCNISLWIPPAFGCRPEYDNG  
 LEEIVFGFEPWIIVVNLAMPFSIFYRMHAAAALFEVYCKI

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mm9014\\_f10.zip](https://cdn.origene.com/chromatograms/mm9014_f10.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_172709

ORF Size: 1800 bp

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. [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:

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\\_172709.3](#), [NP\\_766297.2](#)

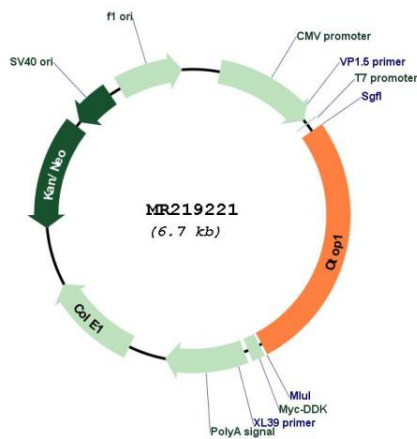
RefSeq Size: 3171 bp

RefSeq ORF: 1803 bp

Locus ID: 21906

**UniProt ID:** [Q80VM9](#)  
**Cytogenetics:** 5 20.35 cM  
**MW:** 66.2 kDa  
**Gene Summary:** Proton-selective channel that specifically transports protons into cells (PubMed:29371428). Proton channel activity is only weakly-sensitive to voltage (PubMed:29371428). Proton-selective channel activity is probably required in cell types that use changes in intracellular pH for cell signaling or to regulate biochemical or developmental processes (PubMed:29371428). In the vestibular system of the inner ear, required for the formation and function of otoconia, which are calcium carbonate crystals that sense gravity and acceleration (PubMed:12651873). Probably acts by maintaining the pH appropriate for formation of otoconia (PubMed:29371428). Regulates purinergic control of intracellular calcium in vestibular supporting cells (PubMed:17606897, PubMed:20554841). May be involved in sour taste perception in sour taste cells by mediating entry of protons within the cytosol (PubMed:29371428). Also involved in energy metabolism, by reducing adipose tissue inflammation and protecting from obesity-induced metabolic dysfunction (PubMed:24379350).[UniProtKB/Swiss-Prot Function]

**Product images:**



Circular map for MR219221