

## Product datasheet for **MC217898**

### 3110043O21Rik (BC076612) Mouse Untagged Clone

#### Product data:

Product Type: Expression Plasmids  
Product Name: 3110043O21Rik (BC076612) Mouse Untagged Clone  
Tag: Tag Free  
Symbol: 3110043O21Rik  
Synonyms: A1840585  
Vector: pCMV6-Entry (PS100001)  
E. coli Selection: Kanamycin (25 ug/mL)  
Cell Selection: Neomycin  
Fully Sequenced ORF: >BC076612  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGTCGACTATCTGCCCCCACCATCTCCTGCTGTGCCAAGACAGAGATTGCTTTAAGTGGTGAATCAC  
CCTTGTGGCGGCTACCTTTGCTTACTGGGATAATATTCTTGGTCTAGAGTAAGGCATATTTGGGCTCC  
AAAGACAGACCAAGTGCTTCTCAGTGATGGAGAAATAACTTTTCTGCCAACCACACTCTAAATGGAGAA  
ATTCTTCGAAATGCAGAGAGTGGGGCTATAGATGTAAAATTTTTGTCTTATCTGAAAAAGGGTAATTA  
TTGTTTCATTAATCTTCGACGAAACTGGAATGGAGATCGGAGCACTTATGGACTATCAATTATACTGCC  
GCAGACAGAGCTGAGCTTCTACCTCCCCTTACAGAGTGTGTGTTGACAGGCTAACACACATTATTCGA  
AAAGGAAGAATATGGATGCATAAGGAAAGACAAGAAAAATGTCCAGAAAAATGTCTTGAAGGCACAGAGA  
GGATGGAAGATCAGGGTCAGAGTATCATTCCCATGCTTACTGGGGAAGTCATTCTGTAATGGAGCTGCT  
TGCATCTATGAAATCCCACAGTGTCTTCAAGACATTGATATAGCTGATACAGTGTCTCAATGATGATGAC  
ATTGGTGACAGCTGTACGAAGGCTTTCTTCTCAATGCCATCAGCTCACACCTGCAGACCTGTGGCTGTT  
CCGTTGTAGTTGGCAGCAGTGCAGAGAAAGTAAATAAGATAGTAAGAAGCTGTGCCTTTTTCTGACACC  
AGCAGAGAGGAAATGCTCCAGGCTGTGTGAAGCAGAATCGTCCTTTAAGTACGAATCGGGACTCTTTGTG  
CAAGGCTTGCTAAAGGATGCAACAGGCAGTTTTGTCTACCCTTCCGGCAAGTTATGATGCCCCGTACC  
CCACCACGCACATTGATGTGGATGTCAACACTGTCAAGCAGATGCCACCGTGTCAATGAAATATTTATAA  
TCAACGCAGATACATGAGGTGAGAGCTGACAGCCTTCTGGAGGGCAACTCAGAAGAGGACATGGCGCAG  
GACACCATCATCTACACAGATGAGAGCTTCACTCCTGATTTGAATATTTTCCAAGATGTCTTACACAGAG  
ACACTCTAGTAAAGCCTTCTGGATCAGGTCTCCATTTGAAGCCTGGCCTGTCTCTCAGGAGTACTTT  
CCTTGACAGTTCCTCCTCATTCTTACAGAAAAGCCTTGACACTAATCAAGTACATCGAGGATGATACG  
TGA

**ACGCGT**ACGCGGCGGCTCGAGCAGAAACTCATCTCTGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



<b>Restriction Sites:</b>	Sgfl-Mlul
<b>ACCN:</b>	BC076612
<b>Insert Size:</b>	1263 bp
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<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>	<u><a href="#">BC076612</a></u> , <u><a href="#">AAH76612</a></u>
<b>RefSeq Size:</b>	3432 bp
<b>RefSeq ORF:</b>	1262 bp
<b>Locus ID:</b>	73205
<b>Cytogenetics:</b>	4 A5

**Gene Summary:**

Component of the C9orf72-SMCR8 complex, a complex that has guanine nucleotide exchange factor (GEF) activity and regulates autophagy (PubMed:27193190, PubMed:27617292). In the complex, C9orf72 and SMCR8 probably constitute the catalytic subunits that promote the exchange of GDP to GTP, converting inactive GDP-bound RAB8A and RAB39B into their active GTP-bound form, thereby promoting autophagosome maturation (By similarity). The C9orf72-SMCR8 complex also acts as a regulator of autophagy initiation by interacting with the ATG1/ULK1 kinase complex and modulating its protein kinase activity (PubMed:27193190, PubMed:27617292). Positively regulates initiation of autophagy by regulating the RAB1A-dependent trafficking of the ATG1/ULK1 kinase complex to the phagophore which leads to autophagosome formation (By similarity). Acts as a regulator of mTORC1 signaling by promoting phosphorylation of mTORC1 substrates (PubMed:27875531). Plays a role in endosomal trafficking (PubMed:26989253). May be involved in regulating the maturation of phagosomes to lysosomes (PubMed:26989253). Regulates actin dynamics in motor neurons by inhibiting the GTP-binding activity of ARF6, leading to ARF6 inactivation (PubMed:27723745). This reduces the activity of the LIMK1 and LIMK2 kinases which are responsible for phosphorylation and inactivation of cofilin, leading to cofilin activation (PubMed:27723745). Positively regulates axon extension and axon growth cone size in spinal motor neurons (PubMed:27723745). Plays a role within the hematopoietic system in restricting inflammation and the development of autoimmunity (PubMed:27412785). [UniProtKB/Swiss-Prot Function]