

## Product datasheet for MR206218

### Arc (NM\_018790) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Arc (NM\_018790) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Arc  
**Synonyms:** Arc3.1; arg3.1; C86064; mArc  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR206218 representing NM\_018790  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGAGCTGGACCATATGACCACCGGGCCCTCCACGCCTACCCTGCCCCGCGGGTGGCCGGCCCA  
 AACCCAATGTGATCCTGCAGATTGGTAAGTGCCGAGCTGAGATGCTGGAACACGTACGGAGGACCCACCG  
 GCATCTGTTGACCGAAGTGTCCAAGCAGGTGGAGCGAGAGCTGAAAGGGTGCACAGGTCGGTGGGCAAG  
 CTGGAGAACAACTTGACGGCTACGTGCCACCGGCGACTCACAGCGCTGGAAGAAGTCCATCAAGGCCT  
 GTCTTTGCCGCTGCCAGGAGACCATCGCCAACCTGGAGCGCTGGGTCAAGCGTGAGATGCACGTGTGGAG  
 GGAGGTCTTACCGTCTGGAGAGGTGGGCTGACCGCCTGGAGTCCATGGGCGGCAAAATACCCAGTGGGC  
 AGCGAGCCGCGCCGACACTGTCTGTAGGTGTGGGGGTCCAGAGCCCTACTGCCAGGAAGCTGATG  
 GCTATGACTATACCGTTAGCCCTATGCCATCACCCCGCCACCTGCCGACGAGAACTGCCTGAACAGGA  
 GTCAGTTGAGGCTCAGCAATATCAGTCTTGGGGGCCAGGTGAGGATGGGCAACCGAGCCCTGGTGTGGAT  
 ACACAGATCTTCGAGGACCCACGGGAGTTCCTGAGCCACCTGGAAGAGTACCTGCGGCAGGTGGTGGCT  
 CTGAAGAATATTGGCTGTCCAGATCCAGAACCACATGAATGGGCCAGCAAGAAGTGGTGGGAGTTCAA  
 GCAGGGCTCGGTGAAGAAGTGGTGGAGTTCAGAAAGGAGTTTCTGCAATACAGTGAGGGTACACTCTCC  
 CGTGAAGCCATTCAGCGGAGCTGGAGCTGCCGAGAAGCAGGGTGAACCACTCGACCACTTCTCTGGC  
 GCAAGCGGACCTGTACCAGACACTGTATGTGGACGCTGAGGAGGAGGATCATTAGTGTGGTGGG  
 CACCCTGCAGCCAAACTCAAGCGCTTTCTGCGCCACCCACTCCCCAAGACCCTGGAGCAGCTTATCCAG  
 AGGGGTATGGAAGTGCAGGACGGCTGGAGCAGGAGCTGAGCCTTCTGGCACCCCACTGCCACAGAGG  
 ATGAGACGGAGGCACTCACACCTGCTTACCAGCGAGTCAGTAGCCAGTGACAGGACCCAGCCTGAA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA



**Protein Sequence:** >MR206218 representing NM\_018790  
 Red=Cloning site Green=Tags(s)

MELDHMTTGLHAYPAPRGGPAAKPNVILQIGKCRAEMLEHVRRTHRHLLTEVSKQVERELKGLHRSVGK  
 LENNLGDYVPTGDSQRWKSIIKACLRCQETIANLERWVKREMHVWREVFYRLERWADRLESMGGKYPVG  
 SEPARHTVSVGVGGPEPYCQEADGYDYTVSPYAITPPPAAGELPEQESVEAQQYQSWGPGEDGQPSGVD  
 TQIFEDPREFLSHLEEYLRQVGGSEYWLSQLQNHMNGPAKKWWEFKQGSVKNWVEFKKEFLQYSEGLTS  
 REAIQRELELPQKQGEPLDQFLWRKRDLYQTLYVDAEEEEIIQYVVGTLQPKLKRFLRHPLPKTLEQLIQ  
 RGMVQDGLQAAEPSGTPLPTEDETEALTPALTSVSDRTQPE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_018790

**ORF Size:** 1188 bp

**OTI Disclaimer:** 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](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

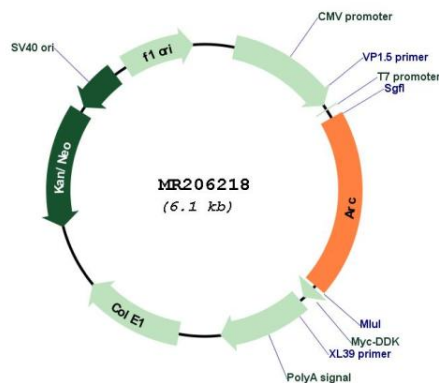
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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.

<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>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<u><a href="#">NM_018790.3</a></u>
<b>RefSeq Size:</b>	3059 bp
<b>RefSeq ORF:</b>	1191 bp
<b>Locus ID:</b>	11838
<b>UniProt ID:</b>	<u><a href="#">Q9WV31</a></u>
<b>Cytogenetics:</b>	15 34.25 cM
<b>MW:</b>	45.8 kDa

**Gene Summary:**

Master regulator of synaptic plasticity that self-assembles into virion-like capsids that encapsulate RNAs and mediate intercellular RNA transfer in the nervous system (By similarity). ARC protein is released from neurons in extracellular vesicles that mediate the transfer of ARC mRNA into new target cells, where ARC mRNA can undergo activity-dependent translation (By similarity). ARC capsids are endocytosed and are able to transfer ARC mRNA into the cytoplasm of neurons (By similarity). Acts as a key regulator of synaptic plasticity: required for protein synthesis-dependent forms of long-term potentiation (LTP) and depression (LTD) and for the formation of long-term memory (PubMed:29264923, PubMed:24094104). Regulates synaptic plasticity by promoting endocytosis of AMPA receptors (AMPA receptors) in response to synaptic activity: this endocytic pathway maintains levels of surface AMPARs in response to chronic changes in neuronal activity through synaptic scaling, thereby contributing to neuronal homeostasis (PubMed:17088213, PubMed:20211139, PubMed:20228806). Acts as a postsynaptic mediator of activity-dependent synapse elimination in the developing cerebellum by mediating elimination of surplus climbing fiber synapses (PubMed:23791196). Accumulates at weaker synapses, probably to prevent their undesired enhancement (By similarity). This suggests that ARC-containing virion-like capsids may be required to eliminate synaptic material (By similarity). Required to transduce experience into long-lasting changes in visual cortex plasticity and for long-term memory (PubMed:17088210, PubMed:20228806). Involved in postsynaptic trafficking and processing of amyloid-beta A4 (APP) via interaction with PSEN1 (PubMed:22036569). In addition to its role in synapses, also involved in the regulation of the immune system: specifically expressed in skin-migratory dendritic cells and regulates fast dendritic cell migration, thereby regulating T-cell activation (PubMed:28783680). [UniProtKB/Swiss-Prot Function]

**Product images:**


Circular map for MR206218