

## Product datasheet for **SC320397**

### Arg 3.1 (ARC) (NM\_015193) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Arg 3.1 (ARC) (NM_015193) Human Untagged Clone
Tag:	Tag Free
Symbol:	Arg 3.1
Synonyms:	Arg3.1; hArc
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

Fully Sequenced ORF:

```
>OriGene sequence for NM_015193.3
AATTCCGGGCACGAGGGTCTCCCTCCGCAGCAGCCGAGCCGGACCTGCCTCCCCGGGCGT
GCTCCGCCGGCCCCCGCCCGGGCCCGCAGCGACAGACAGGCGCTCCCCGAGCTCCGCAC
GGGACCCAGGCCCGCCGGACCCACAGCGCCGACCACCTCTGTCCGCCCGAGGAGTTTGC
CGCCTGCCGGAGCACCTGCCACAGATGGAGCTGGACCACCGACCAGCGGGGGCTCCA
CGCCTACCCCGGGCCCGGGGGCAGGTGGCCAAGCCCAACGTGATCCTGCAGATCGG
GAAGTCCCGGGCCGAGATGCTGGAGCAGTGCAGCGGACGCACCCGGACCTGCTGGCCGA
GGTGTCCAAGCAGGTGGAGCGCAGCTGAAGGGCTGCACCGGTGGTCCGGAAGCTGGA
GAGCAACCTGGACGGCTACGTGCCACAGGCGACTCGCAGCGCTGGAAGAAGTCCATCAA
GGCCTGCCTGTGCCGCTGCCAGGAGACCATCGCCAACCTGGAGCGCTGGGTCAAGCGCGA
GATGCACGTGTGGCGGAGGTGTCTACCGCTGGAGCGCTGGGCCGACCCGCTGGAGTC
CACGGGCGCAAGTACCCGGTGGGCAGCGAGTCAGCCCGCACACCGTTTCCGTGGGCGT
GGGGGGTCCCAGAGCTACTGCCACGAGGCAGCGCTACGACTACACCGTCAGCCCTA
CGCCATACCCCCCCCCAGCCGCTGGCGAGCTGCCGGGCAGGAGCCCGCCGAGGCCCA
GCAGTACCAGCCGTGGGTCCCCGGCGAGGACGGGCAGCCAGCCCGGCGTGGACACGCA
GATCTTCGAGGACCTCGAGAGTTCCTGAGCCACCTAGAGGAGTACTTGGGGCAGTGGG
CGGCTCTGAGGAGTACTGGTGTCCCAGATCCAGAATCACATGAACGGGCCGGCCAAAGAA
GTGGTGGGAGTTCAAGCAGGGTCCGTGAAGAACTGGGTGGAGTTCAAGAAGGAGTTCTT
GCAGTACAGCGAGGGCACGCTGTCCCGAGAGGCCATCCAGCGGGAGCTGGACCTGCCGCA
GAAGCAGGGCGAGCCGCTGGACCAGTTCCTGTGGCGCAAGCGGGACCTGTACCAGACGCT
CTACGTGGACCGGACGAGGAGGAGATCATCCAGTACGTGGTGGGACCCCTGCAGCCAA
GCTCAAGCGTTCCTGCCACCCCTGCCAAGACCTGGAGCAGCTCATCCAGAGGGG
CATGGAGGTGCAGGATGACCTGGAGCAGCGCCGAGCCGGCCCGCCCACTCCCGGT
GGAGGATGAGGCCGAGACCTCACGCCCGCCCAACAGCGAGTCCGTGGCCAGTGACCC
GACCCAGCCGAGTAGAGGGCATCCCGAGCCCGCCAGCCTGCCACTACATCCAGCCTGT
GGCTTTGCCACCAAGGACTTTTGGAGTGGGGTACTCCTGCAGGGGAAGCCCTGGTCCA
GCTGGGTGCCCTCGAGCTCCGGGCGGACTCGCACACACTCGTGTATCCAGATGTGAG
CACCCGACCCAGCGGCAAGAGCCCTCCCCCTGCAGGGCTCCACCCATCACCCCTCCCTC
CGTCTGTCTTCCGGCCTGGACCCACCTCCACACTCTCAGGCCATCACAGAACACCCC
AGTTCCTCATTCTGCTACAACACCCAGGCCCTCTGGACATCCAGAAAACCAAGTGTCCG
GATGGCAGGGGCCAGCGCCACCAAGCTCATGGGACACCCAGAGCAGAAGCTAGGGCAGA
GCCAATGTGAGGGAGCCTCGACTTCCGGCGCCCGCCCTCTCCCGGCATCCGCAGAGC
CAGCTGACGCCCTCCCTGCCTCCCAGGGCAGCTGGCCAGCCTCGGGCAGCGCGGCCCTT
CCTCCCAGGGGAGAGTAGAAGTCGCACACGCAGCAGAGCAGACCTGATGTCCCGGTGCTT
CCTGGCCCTCAGCTCCAGTGATTCAGCCCGCCTGGAGAAGAATCAGAGCTCAGCTCAT
GACTCACCCATGGCAGGCGGAGGGTCCCAGAGGGGCTGAGTCCTCAAATCCGGCTGAGGC
AGCAGCTGGCACCATCAGAGCCAGGAGAGTGACAACAGGTCTCAAGGTTCACACAAGTC
TTTGTCTGTGTGGCACCACCCACCCCTCACCTTGCAGGCTGCCTGCGTGGGAGGCG
AAGTCCCAGGACAGCCCAGAGGGGGGCTACAGAGAGGAGTCCGGTGCAGCAGAGGGCAGG
AGCCCCAGCTTAGCCCTGAGCGCCAGCGGAGGACCAGGGCCTGCCACTAAGCCCGCCC
GCTGGCCGCCAGCTGCCGTCCCAGAGCCACTGCAGCAGGAGTCCGGCCCTGCCTCCCT
CCCAGCAGGGAACCCCGCCGCTGCCAGGCCATCCTCTCTGCCAGAGGCTTTCATGAGC
CCCAAGGCTGGGGCCACAGCTCTACCCCTGCCAGCAGCCCTGAGCTCAGCTGCAGGAA
GGACATCCAGAAGCCATGGCTCCTGGGGCGTTCCAGGCATTCTGCCCTGCCCCGACAC
CAGAACCCTGGTGTGGTGGGCCACTAGCGTCTGCAGCCTAAGCAGGTGCTGGCTCAGGG
TTCATCGTTCTGCCTTGTCCACTGGGGGACCAGCCCTGCAGACCACTCTGACAAGTCTT
AGCCACACCCCTGCCAGCCCACAGATTTATTTTTGCACATAAGCCATAACCAATCCTC
AAGGCTGGCACAGGCTTTGGGGAAGCCCTGGAGCCTGTGAAGACCCTGGAACCTCATGA
GGCTGTGGCAACCCCTGCCCTTGCCCCACACAGACCAGGCCTTAAATGTCCGTCCAGG
CCCTGTGCACCTTACCCAGAGACAGACTCTTTTTGTAAGATTTGTAAATAAAACACTG
AAACTTCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

<b>Restriction Sites:</b>	Please inquire
<b>ACCN:</b>	NM_015193
<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>OTI Annotation:</b>	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
<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="#">NM_015193.3</a></u> , <u><a href="#">NP_056008.1</a></u>
<b>RefSeq Size:</b>	2985 bp
<b>RefSeq ORF:</b>	1191 bp
<b>Locus ID:</b>	23237
<b>UniProt ID:</b>	<u><a href="#">Q7LC44</a></u>
<b>Cytogenetics:</b>	8q24.3

**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. 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. ARC capsids are endocytosed and are able to transfer ARC mRNA into the cytoplasm of neurons. 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. 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. Acts as a postsynaptic mediator of activity-dependent synapse elimination in the developing cerebellum by mediating elimination of surplus climbing fiber synapses. Accumulates at weaker synapses, probably to prevent their undesired enhancement. This suggests that ARC-containing virion-like capsids may be required to eliminate synaptic material. Required to transduce experience into long-lasting changes in visual cortex plasticity and for long-term memory (By similarity). Involved in postsynaptic trafficking and processing of amyloid-beta A4 (APP) via interaction with PSEN1 (By similarity). 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 (By similarity).[UniProtKB/Swiss-Prot Function]