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Product datasheet for RR207526

Atg7 (NM_001012097) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Atg7 (NM_001012097) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Atg7
Synonyms:	Apg7l
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RR207526 representing NM_001012097
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGGGACCCTGGACTGTCCAAGCTGCAGTTTGCCCCCTTTAATAGTGCCCTGGACGTTGGCTTCTGGC
ACGAACTGACCCAGAAGAAGTTGAACGAGTATCGCCTGGACGAGGCACCCAAAGACATCAAGGGCTATTA
CTACAATGGTGACTCTGCCGGCCTCCCCACCCGCTTGACATTGGAGTTCAGTGCTTTTGACATGAGCGCC
CCCACGCCTGCCCGCTGCTGCCCGGCCATGGGAACCCTGCACAACACCAACACACTTGAGGCTTTTAAGA
CTGCAGACAAGAAGCTCCTTCTGGAGCAGTCAGCCAATGAGATCTGGGAAGCCATAAAGTCAGGTGCTGC
TCTCGAAAACCCCATGCTCCTCAACAAGTTTCTGCTCTTGACCTTCGCGGACCTAAAGAAGTACCACTTC
TACTACTGGTTTTGCTGCCCTGCCCTCTGTCTTCCTGAGAGCATCCCTCTAATCCGGGGACCTGTGGGCT
TGGATCAAAGGCTTTCACCAAAACAGATCCAGGCCCTGGAGCATGCCTACGATGACCTGTGTCGAACTGA
AGGCGTCACAGCCCTGCCATACTTCTTATTCAAGTACGATGACGACACTGTGCTGGTCTCCTTGCTCAAA
CACTACAGTGATTTCTTCCAAGGTCAAAGGACAAAGTTAACAGTCGGTGTGTACGATCCCTGTAACCTAA
CCCAGCACCCTGGATGGCCTTTGAGGAATTTTTTGGTCCTGGCAGCCCACAGATGGAGCGGCAGTTTCCA
GTCTGTTGAAGTTCTCTGCTTTCGGGACCGCACCATGCAGGGAGCAAGAGATGTGACACACAGCATCATC
TTTGAAGTGAAACTTCCAGAAATGGCGTTTAGCCCAGATTGTCCTAAGGCAGTTGGCTGGGAGAAGAACC
AGAAAGGAGGCATGGGTCCGAGGATGGTGAACCTCAGCGGATGTATGGACCCCAAAAGGCTGGCTGAGTC
ATCCGTGGATCTGAATCTCAAGCTGATGTGCTGGCGGTTGGTCCCCACCTTGGACTTGGACAAGGTCGTG
TCTGTCAAGTGCCTGCTGCTGGGAGCTGGTACCTTGGGGTGTAATGTGGCTAGAACACTGATGGGCTGGG
GCGTCAGACACGTCACGTTTGTGGACAACGCCAAGATCTCCTACTCCAATCCCGTGAGGCAGCCTCTGTA
TGAATTTGAAGATTGTCTAGGGGGTGGCAAGCCCAAGGCCCTGGCTGCAGCAGAGCGGCTCCAGAAAATA
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GTCATCAATGCTGCCTTGGGGTTTGACACCTTTGTTGTCATGAGACATGGCCTGAAGAAACCCAAGCAGC
AGGGAGCCGGGGACCTGTGCCCAAGCCATCTTGTAGCACCTGCTGACCTGGGCTCCTCACTTTTTGCCAA
CATCCCTGGATACAAGCTTGGCTGCTACTTCTGCAATGATGTGGTGGCTCCAGGAGATTCCACCAGAGAC
CGGACTCTGGACCAGCAGTGCACAGTGAGCCGCCCAGGGCTGGCCGTGATTGCAGGAGCCCTGGCTGTGG
AGCTGATGGTTTCTGTCTTGCAGCATCCTGAGGGGGGCTACGCCATCGCCAGCAGCAGTGATGACCGCAT
GAATGAGCCTCCCACCTCGCTGGGGCTTGTACCTCACCAGATCCGGGGCTTTCTGTCACGGTTCGATAAT
GTCCTTCCTGTCAGCCTGGCATTTGATAAATGTACAGCCTGTTCATCCAAAGTTCTTGATCAATATGAGC
AAGAAGGATTCACCTTCCTGGCCAAGGTGTTTAACTCTTCACATTCCTTCTTAGAAGATTTGACTGGTCT
TACACTGCTCCACCAAGAGACCCAAGCTGCTGAGATCTGGGACATGAGTGACGAGGAGACCGTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

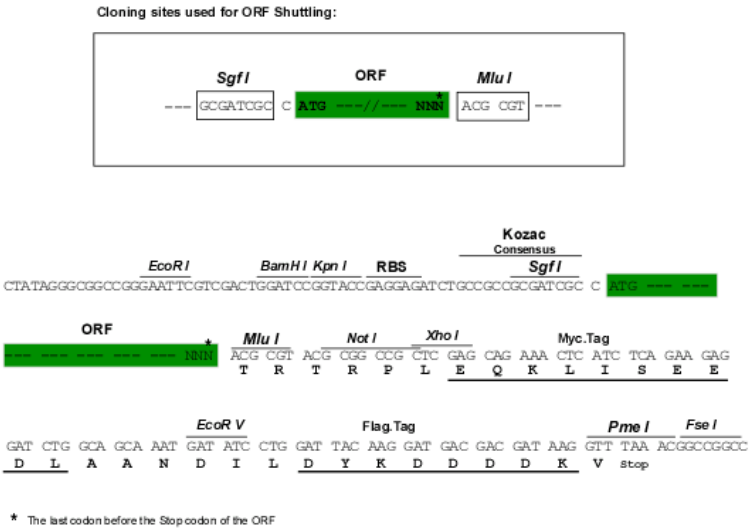
>RR207526 representing NM_001012097
Red=Cloning site Green=Tags(s)

MGDPGLSKLQFAPFNSALDVGFWHELTQKKLNEYRLDEAPKDIKGYYYNGDSAGLPTRLTLEFSAFDMSA
PTPARCCPAMGTLHNTNTLEAFKTADKKLLLEQSANEIWEAIKSGAALENPMLLNKFLLLTFADLKKYHF
YYWFCCPALCLPESIPLIRGPVGLDQRLSPKQIQALEHAYDDLCRTEGVTALPYFLFKYDDDTVLVSLLK
HYSDFFQGQRTKLTVGVYDPCNLTQHPGWPLRNFLVLAAHRWSGSFQSVEVLCFRDRTMQGARDVTHSII
FEVKLPEMAFSPDCPKAVGWEKNQKGGMGPRMVNLSGCMDPKRLAESSVDLNLKLMCWRLVPTLDLDKVV
SVKCLLLGAGTLGCNVARTLMGWGVRHVTFVDNAKISYSNPVRQPLYEFEDCLGGGKPKALAAAERLQKI
FPGVNASGFNMSIPMPGHPVNFSDVTMEQARRDVEQLEELIDSHDVIFLLMDTRESRWLPTVIAASKRKL
VINAALGFDTFVVMRHGLKKPKQQGAGDLCPSHLVAPADLGSSLFANIPGYKLGCYFCNDVVAPGDSTRD
RTLDQQCTVSRPGLAVIAGALAVELMVSVLQHPEGGYAIASSSDDRMNEPPTSLGLVPHQIRGFLSRFDN
VLPVSLAFDKCTACSSKVLDQYEQEGFTFLAKVFNSSHSFLEDLTGLTLLHQETQAAEIWDMSDEETV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001012097

ORF Size: 2094 bp

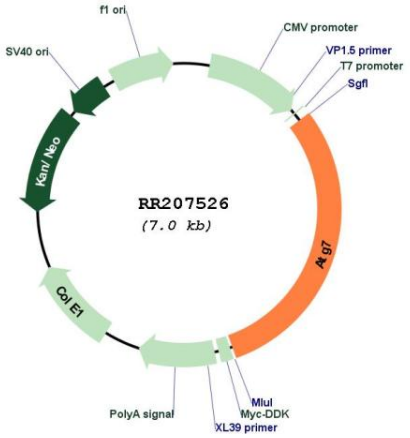
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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_001012097.1, NP_001012097.1
RefSeq Size:	2386 bp
RefSeq ORF:	2097 bp
Locus ID:	312647
UniProt ID:	Q641Y5
Cytogenetics:	4q42
MW:	77.4 kDa
Gene Summary:	E1-like activating enzyme involved in the 2 ubiquitin-like systems required for cytoplasm to vacuole transport (Cvt) and autophagy. Activates ATG12 for its conjugation with ATG5 as well as the ATG8 family proteins for their conjugation with phosphatidylethanolamine. Both systems are needed for the ATG8 association to Cvt vesicles and autophagosomes membranes. Required for autophagic death induced by caspase-8 inhibition. Required for mitophagy which contributes to regulate mitochondrial quantity and quality by eliminating the mitochondria to a basal level to fulfill cellular energy requirements and preventing excess ROS production. Modulates p53/TP53 activity to regulate cell cycle and survival during metabolic stress. Plays also a key role in the maintenance of axonal homeostasis, the prevention of axonal degeneration, the maintenance of hematopoietic stem cells, the formation of Paneth cell granules, as well as in adipose differentiation (By similarity). Plays a role in regulating the liver clock and glucose metabolism by mediating the autophagic degradation of CRY1 (clock repressor) in a time-dependent manner (By similarity). [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RR207526