

Product datasheet for **RN207526**

Atg7 (NM_001012097) Rat Untagged Clone

Product data:

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



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Fully Sequenced ORF: >RN207526 representing NM_001012097
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGGGGACCCTGGACTGTCCAAGCTGCAGTTTGGCCCTTTAATAGTGCCTGGACGTTGGCTTCTGGC
 ACGAACTGACCCAGAAGAAGTTGAACGAGTATCGCCTGGACGAGGCACCCAAAGACATCAAGGGCTATTA
 CTAACAATGGTGACTCTGCCGGCCTCCCCACCCGTTGACATTGGAGTTCAAGTCTTTTGACATGAGCGCC
 CCCACGCCTGCCGCTGCTGCCGGCCATGGGAACCTGCACAACACCAACACACTTGAGGCTTTTAAGA
 CTGCAGACAAGAAGCTCCTTCTGGAGCAGTCAGCCAATGAGATCTGGGAAGCCATAAAGTCAGGTGCTGC
 TCTCGAAAACCCATGCTCCTCAACAAGTTTCTGCTCTTGACCTTCGCGGACCTAAAGAAGTACCACTTC
 TACTACTGGTTTTGCTGCCCTGCCCTCTGTCTTCTGAGAGCATCCCTCTAATCCGGGGACCTGTGGGCT
 TGGATCAAAGGCTTTCACCAAAACAGATCCAGGCCCTGGAGCATGCCTACGATGACCTGTGTGCAACTGA
 AGGCGTCACAGCCCTGCCATACTTCTTATTCAAGTACGATGACGACACTGTGCTGGTCTCCTTGCTCAA
 CACTACAGTGATTTCTTCCAAGTCAAAGGACAAAGTTAACAGTCGGTGTGTACGATCCCTGTAACCTAA
 CCCAGCACCTGGATGGCCTTTGAGGAATTTTTGGTCTGCGAGCCACAGATGGAGCGGCAGTTTCCA
 GTCTGTTGAAGTCTCTGCTTTCCGGACCCACCATGCAGGGAGCAAGAGATGTGACACACAGCATCATC
 TTTGAAGTGAAACTTCCAGAAAATGGCGTTTAGCCAGATTGTCCTAAGGCAGTTGGCTGGGAGAAGAACC
 AGAAAGGAGGCATGGGTCCGAGGATGGTGAACCTCAGCGGATGTATGGACCCAAAAGGCTGGCTGAGTC
 ATCCGTGGATCTGAATCTCAAGCTGATGTGCTGGCGTTGGTCCCACCTGGACTTGGACAAGGTCGTG
 TCTGTCAAGTGCCTGCTGCTGGGAGCTGGTACCTTGGGGTGTAAATGTGGCTAGAACAATGATGGGCTGG
 GCGTCAGACACGTCACGTTTGTGGACAACGCCAAGATCTCCTACTCCAATCCCCTGAGGCAGCCTCTGTA
 TGAATTTGAAGATTGTCTAGGGGGTGGCAAGCCCAAGGCCCTGGCTGCAGCAGAGCGGCTCCAGAAAATA
 TTTCCCGAGTGAATGCCAGCGGTTCAACATGAGCATCCCCATGCCCGACACCCTGTGAACCTCTCTG
 ACGTCACGATGGAGCAGGCCCGCAGAGATGTGGAGCAGCTGGAGGAACTCATCGATAGCCACGATGTCAT
 CTTCTGCTAATGGACACCAGGGAGAGCCGATGGCTTCTACTGTTATTGCAGCCAGCAAGCGAAAGCTG
 GTCATCAATGCTGCCTTGGGGTTTGACACCTTGTGTCATGAGACATGGCCTGAAGAAACCAAGCAGC
 AGGGAGCCGGGACCTGTGCCAAGCCATCTGTAGCACCTGCTGACCTGGGCTCCTCACTTTTTGCCAA
 CATCCCTGGATACAAGCTTGGCTGCTACTTCTGCAATGATGTGGTGGCTCCAGGAGATCCACCAGAGAC
 CGGACTCTGGACCAGCAGTGCACAGTGAAGCCAGGGCTGGCCGTGATTGCAGGAGCCCTGGCTGTGG
 AGCTGATGGTTTTCTGCTTGCAGCATCCTGAGGGGGGCTACGCCATCGCCAGCAGCAGTGTGACCGCAT
 GAATGAGCCTCCACCTCGCTGGGGCTGTACCTCACCAGATCCGGGGCTTTCTGTACAGGTTCCGATAAT
 GTCCTTCTGTACGCTGGCATTGATAAATGTACAGCCTGTTTCAAAAGTCTTGTATCAATATGAGC
 AAGAAGGATTCACCTTCTGGCCAAGGTGTTAACTCTTACATTCCTTCTTAGAAGATTGACTGGTCT
 TACTGCTCCACCAAGAGACCAAGCTGCTGAGATCTGGGACATGAGTGACGAGGAGACCGCT**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: Sgfl-Mlul
ACCN: NM_001012097
Insert Size: 2097 bp

OTI Disclaimer: 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).

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:	<ol style="list-style-type: none">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:	<u>NM_001012097.1</u> , <u>NP_001012097.1</u>
RefSeq Size:	2386 bp
RefSeq ORF:	2097 bp
Locus ID:	312647
UniProt ID:	<u>Q641Y5</u>
Cytogenetics:	4q42
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]