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Product datasheet for RR204962

Atg3 (NM_134394) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Atg3 (NM_134394) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Atg3
Synonyms:	Apg3l; PIG-1; Pig1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RR204962 representing NM_134394 Red=Cloning site Blue=ORF Green=Tags(s) TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC GCCGCGATCGCC ATGCAGAATGTGATCAACACGGTGAAGGGAAAGGCTCTGGAAGTGGCCGAGTACCTGACCCCGGTCCTCA AGGAATCAAAATTTAAGGAAACAGGTGTAATCACCCCAGAAGAGTTTGTGGCAGCTGGAGATCACTTAGT CCACCACTGTCCAACATGGCAATGGGCTACAGGGGAAGAATTGAAAGTGAAGGCATATCTACCAACAGGG AAACAGTTTTTGGTAACCAAAAATGTTCCATGCTACAAGCGGTGTAAACAGATGGAGTATTCGGATGAAT TGGAGGCTATCATTGAAGAAGATGATGGTGATGGGGGCTGGGTAGACACGTACCATAACACAGGTATTAC AGGAATTACTGAAGCAGTTAAGGAGATTACACTGGAAAGCAAGGACAGTATAAAACTCCAAGACTGCTCA GTGCTGTGCGATGAAGAGGAGGAGGAAGAGGAAGGGGAAGCTGCAGACATGGAAGAATATGAAGAGAGTG GATTGTTGGAAACAGATGAGGCTACCCTAGACACCAGAAGAATAGTGGAAGCTTGTAAAGCTAAAGCTGA TGCTGGGGGTGAAGACGCCATTCTGCAAACAAGAACCTATGACCTGTACATCACTTACGACAAGTACTAC CAGACGCCACGGCTCTGGCTGTTTGGCTATGATGAGCAACGGCAGCCTTTAACAGTTGAGCACATGTATG AAGACATCAGTCAAGATCATGTGAAGAAAACAGTGACCATTGAAAACCATCCTCACCTCCCACCACCTCT TATGTGTTCAGTTCACCCCTGCAGGCATGCTGAAGTGATGAAGAAAATTATTGAGACCGTTGCAGAAGGC GGGGGAGAGCTTGGTGTTCATATGTATCTTTTAATTTTTTTGAAATTTGTTCAAGCTGTCATTCCAACAA TAGAATATGACTACACAAGACACTTCACAATG ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

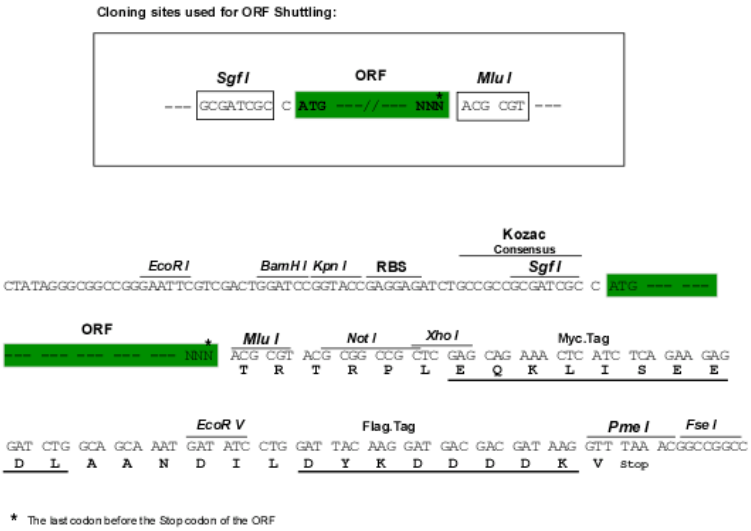
>RR204962 representing NM_134394
Red=Cloning site Green=Tags(s)

MQNVINTVKGKALEVAEYLTPVLKESKFKETGVITPEEFVAAGDHLVHHCPTWQWATGEELKVKAYLPTG
KQFLVTKNVPCYKRCKQMEYSDELEAIIEEDDGDGGWVDTYHNTGITGITEAVKEITLESKDSIKLQDCS
VLCDEEEEEEEGEAADMEEYEESGLLETDEATLDTRRIVEACKAKADAGGEDAILQTRTYDLYITYDKYY
QTPRLWLFGYDEQRQPLTVEHMYEDISQDHVKKTVTIENHPHLPPPLMCSVHPCRHAEVMKKIIETVAEG
GGELGVHMYLLIFLKFVQAVIPTIEYDYTRHFTM

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

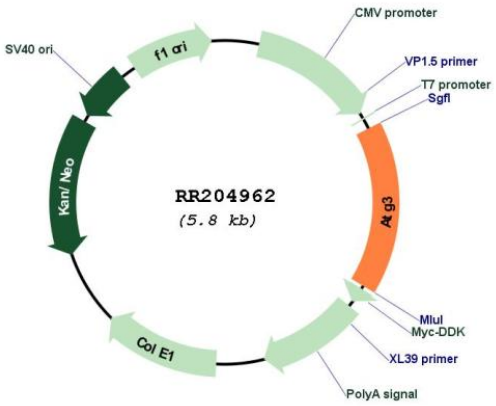
Restriction Sites: SgfI-MluI

Cloning Scheme:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_134394

ORF Size: 942 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_134394.2, NP_599221.1
RefSeq Size:	1423 bp
RefSeq ORF:	945 bp
Locus ID:	171415
UniProt ID:	Q6AZ50
Cytogenetics:	11q21
MW:	35.8 kDa
Gene Summary:	E2 conjugating enzyme required for the cytoplasm to vacuole transport (Cvt), autophagy, and mitochondrial homeostasis. Responsible for the E2-like covalent binding of phosphatidylethanolamine to the C-terminal Gly of ATG8-like proteins (GABARAP, GABARAPL1, GABARAPL2 or MAP1LC3A). The ATG12-ATG5 conjugate plays a role of an E3 and promotes the transfer of ATG8-like proteins from ATG3 to phosphatidylethanolamine (PE). This step is required for the membrane association of ATG8-like proteins. The formation of the ATG8-phosphatidylethanolamine conjugates is essential for autophagy and for the cytoplasm to vacuole transport (Cvt). Preferred substrate is MAP1LC3A. Also acts as an autocatalytic E2-like enzyme, catalyzing the conjugation of ATG12 to itself, ATG12 conjugation to ATG3 playing a role in mitochondrial homeostasis but not in autophagy. ATG7 (E1-like enzyme) facilitates this reaction by forming an E1-E2 complex with ATG3 (By similarity). [UniProtKB/Swiss-Prot Function]