

Product datasheet for **MR204475**

Atg3 (NM_026402) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Atg3 (NM_026402) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Atg3
Synonyms:	2610016C12Rik; APG3; Apg3l; Atg3l; PC3-96
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR204475 representing NM_026402 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCAGAAATGTGATCAACACGGTGAAGGAAAGGCTCTGGAAGTGGCCGAGTACCTGACCCCGTCTCA
AGGAATCAAAATTAAGGAAACGGGTGTAATCACTCCAGAAGAGTTTGTGGCAGCTGGAGATCACTTAGT
CCACCACTGTCCAACATGGCAATGGGCTACAGGGGAAGAATTGAAAGTGAAGGCATATCTCCGACAGAC
AAACAATTTTTGGTAACCAAAAATGTTCCATGCTACAAGCGGTGTAACAGATGGAGTATTCGGATGAAT
TGAAGCTATCATTGAAGAAGATGATGGTATGGGGATGGGTAGATACATATCACAACACAGGTATTAC
AGGAATTAAGCAGTAAAGGAGATTACCTGGAAGCAAGGACAGTATAAACTCCAAGATTGCTCA
GCACTGTGTGATGAAGAAGACGAGGAAGATGAAGGGAAGCTGCAGACATGGAAGAATATGAAGAGATG
GATTGTTGAAACAGATGAGGCTACCCTAGACACAAGGAAAATAGTGAAGCCTGCAAAGCTAAGGCTGA
CGCTGGAGGTGAAGATGCTATTTTACAAACGAGAACATACGATCTGTACATCACTTACGACAAAATATTAC
CAGACACCACGGCTATGGTTGTTGGCTATGATGAGCAACGGCAGCCTTTAACAGTTGAGCACATGTATG
AAGACATCAGTCAAGATCATGTGAAGAAAACAGTGACCATTGAAAACCATCTCATCTCCACCACCTCC
TATGTGTTCAAGTCAACCATGCAGGCATGCTGAAGTATGAAGAAAATTTAGACAGTTGCAGAAGGC
GGGGAGAGCTTGGTGTTCATATGTATCTTTTAAATTTTTTGAATTTGTTCAAGCTGTCAATCCAACAA
TAGAATATGACTACACAAGACACTTCACAATG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCTGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI



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Cloning Scheme:


ACCN: NM_026402

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_026402.1](#), [NM_026402.2](#), [NM_026402.3](#), [NP_080678.1](#)

RefSeq Size: 2014 bp

RefSeq ORF: 945 bp

Locus ID: 67841

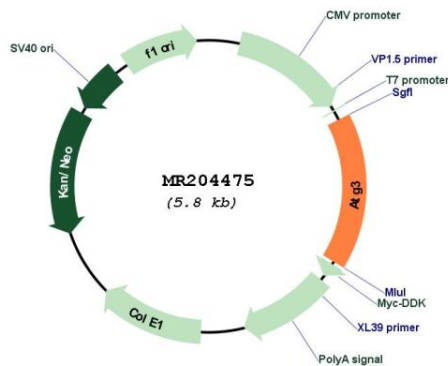
UniProt ID: [Q9CPX6](#)

Cytogenetics: 16 B5

MW: 36.2 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. ATG12-ATG3 conjugate is also formed upon vaccinia virus infection, leading to the disruption the cellular autophagy which is not necessary for vaccinia survival and proliferation. Promotes primary ciliogenesis by removing OFD1 from centriolar satellites via the autophagic pathway. [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR204475