

ATG3 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1807a

Specification

ATG3 Antibody (N-term) - Product Information

| | |
|-------------------|---|
| Application | WB,E |
| Primary Accession | O9NT62 |
| Other Accession | O6GQE7 , O6AZ50 , O9CPX6 , O0VCL3 |
| Reactivity | Human |
| Predicted | Bovine, Mouse, Rat, Xenopus |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | Rabbit IgG |
| Calculated MW | 35864 |
| Antigen Region | 2-31 |

ATG3 Antibody (N-term) - Additional Information

Gene ID 64422

Other Names

Ubiquitin-like-conjugating enzyme ATG3, 632-, Autophagy-related protein 3, APG3-like, hAp3, Protein PC3-96, ATG3, APG3, APG3L

Target/Specificity

This ATG3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 2-31 amino acids from the N-terminal region of human ATG3.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

ATG3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

ATG3 Antibody (N-term) - Protein Information

Name ATG3 ([HGNC:20962](#))

Synonyms APG3, APG3L

Function E2 conjugating enzyme that catalyzes the covalent conjugation of the C-terminal Gly of ATG8-like proteins (GABARAP, GABARAPL1, GABARAPL2 or MAP1LC3A) to the amino group of phosphatidylethanolamine (PE)-containing lipids in the membrane resulting in membrane-bound ATG8-like proteins which is one of the key steps in the development of autophagic isolation membranes during autophagosome formation (PubMed:[24191030](#), PubMed:[33446636](#), PubMed:[37252361](#)). Cycles back and forth between binding to ATG7 for loading with the ATG8-like proteins and binding to E3 enzyme, composed of ATG12, ATG5 and ATG16L1 to promote ATG8-like proteins lipidation (PubMed:[11825910](#), PubMed:[12207896](#), PubMed:[12890687](#), PubMed:[16704426](#), PubMed:[24186333](#)). Also plays a role as a membrane curvature sensor that facilitates LC3/GABARAP lipidation by sensing local membrane stress associated with lipid-packing defects as occurs with high molar proportions of conical lipids or strident membrane curvature (By similarity). Interacts with negatively-charged membranes promoting membrane tethering and enhancing LC3/GABARAP lipidation (PubMed:[29142222](#)). Also acts as an autocatalytic E2-like enzyme by catalyzing the conjugation of ATG12 to itself in an ATG7-dependent manner, this complex thus formed, plays a role in mitochondrial homeostasis but not in autophagy (By similarity). ATG12-ATG3 conjugation promotes late endosome to lysosome trafficking and basal autophagosome maturation via its interaction with PDCD6IP (By similarity). 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 (By similarity). Promotes primary ciliogenesis by removing OFD1 from centriolar satellites via the autophagic pathway (By similarity).

Cellular Location

Cytoplasm.

Tissue Location

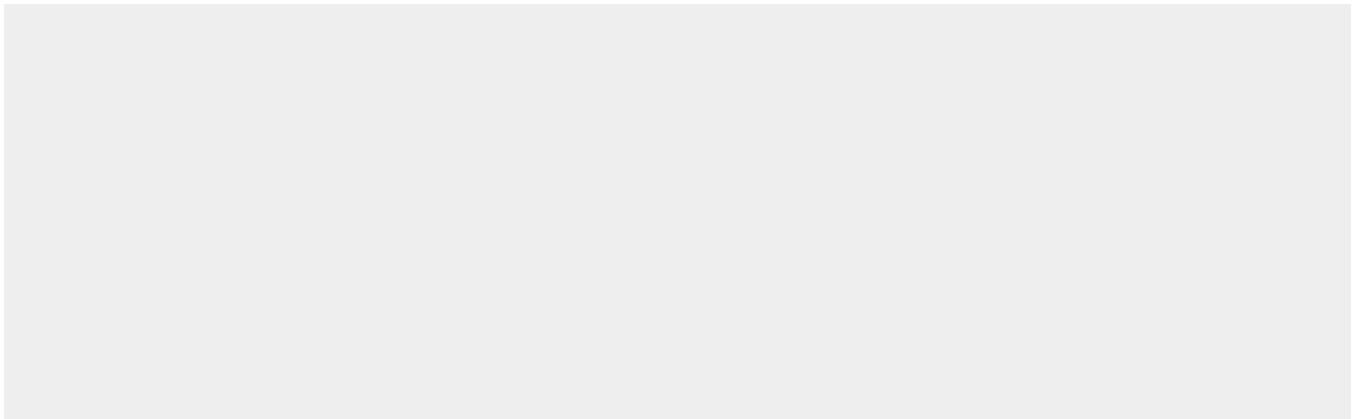
Widely expressed, with a highest expression in heart, skeletal muscle, kidney, liver and placenta

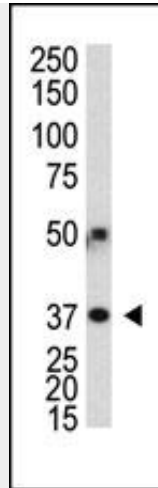
ATG3 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ATG3 Antibody (N-term) - Images





Polyclonal antibody AP1807a was used in Western blot to detect human APG3L in transfected 293 cells.

ATG3 Antibody (N-term) - Background

Macroautophagy is the major inducible pathway for the general turnover of cytoplasmic constituents in eukaryotic cells, it is also responsible for the degradation of active cytoplasmic enzymes and organelles during nutrient starvation. Macroautophagy involves the formation of double-membrane bound autophagosomes which enclose the cytoplasmic constituent targeted for degradation in a membrane bound structure, which then fuse with the lysosome (or vacuole) releasing a single-membrane bound autophagic bodies which are then degraded within the lysosome (or vacuole).

APG3L is an E2-like conjugating enzyme facilitating covalent binding of APG8 (MAP1LC3) to phosphatidylethanolamine (PE). APG7 (an E1-like enzyme) facilitates this reaction by forming an E1-E2 complex with APG3. Formation of the PE conjugate is essential for autophagy.

ATG3 Antibody (N-term) - References

- Baehrecke EH. Nat Rev Mol Cell Biol. 6(6):505-10. (2005)
- Lum JJ, et al. Nat Rev Mol Cell Biol. 6(6):439-48. (2005)
- Greenberg JT. Dev Cell. 8(6):799-801. (2005)
- Levine B. Cell. 120(2):159-62. (2005)
- Shintani T and Klionsky DJ. Science. 306(5698):990-5. (2004)

ATG3 Antibody (N-term) - Citations

- [Cytoplasmic sirtuin 6 translocation mediated by p62 polyubiquitination plays a critical role in cadmium-induced kidney toxicity](#)