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ATG14 Antibody
Catalog # ASC11551

Specification

ATG14 Antibody - Product Information

Application	**WB, IF, E**
Primary Accession	Q6ZNE5
Other Accession	NP_055739, 50540545
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**54 kDa KDa**
Application Notes	**ATG14 antibody can be used for detection of ATG14 by Western blot at 1 - 2 µg/mL. For immunofluorescence start at 20 µg/mL.**

ATG14 Antibody - Additional Information

Gene ID **22863**

Target/Specificity
ATG14; At least three isoforms of ATG14 are known to exist; this antibody will detect all three isoforms

Reconstitution & Storage
ATG14 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
ATG14 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ATG14 Antibody - Protein Information

Name ATG14 {ECO:0000303|PubMed:18843052}

Function
Required for both basal and inducible autophagy. Determines the localization of the autophagy-specific PI3-kinase complex PI3KC3-C1 (PubMed:18843052, PubMed:19050071). Plays a role in autophagosome formation and MAP1LC3/LC3 conjugation to phosphatidylethanolamine (PubMed:19270696, PubMed:20713597). Promotes BECN1 translocation from the trans-Golgi network to autophagosomes (PubMed:20713597). Enhances PIK3C3 activity in a BECN1-dependent manner. Essential for the autophagy-dependent phosphorylation of BECN1 (PubMed:<a href="http://www.uniprot.org/citations/23878393"

target="_blank">23878393). Stimulates the phosphorylation of BECN1, but suppresses the phosphorylation PIK3C3 by AMPK (PubMed:23878393). Binds to STX17-SNAP29 binary t-SNARE complex on autophagosomes and primes it for VAMP8 interaction to promote autophagosome-endolysosome fusion (PubMed:25686604, PubMed:37632749). Modulates the hepatic lipid metabolism (By similarity).

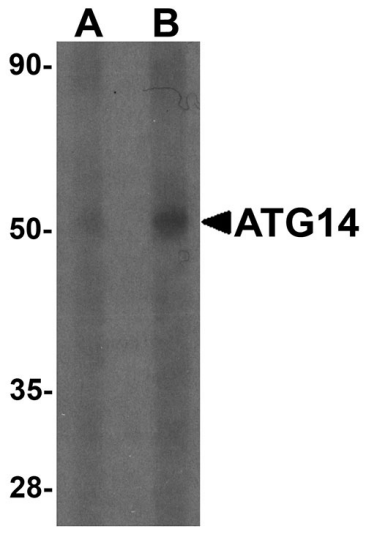
Cellular Location
Cytoplasm. Endoplasmic reticulum membrane; Peripheral membrane protein. Preautophagosomal structure membrane; Peripheral membrane protein. Cytoplasmic vesicle, autophagosome membrane; Peripheral membrane protein. Note=Cytosolic under nutrient-rich conditions (PubMed:19050071). Following autophagy stimuli, such as starvation or rapamycin induction, predominantly detected in cytoplasmic foci, identified as isolation membranes and autophagosomes (PubMed:19050071). Accumulates on highly curved PtdIns(3)P enriched autophagic membrane via its BATS domain to sense and maintain membrane curvature (By similarity). Also localizes to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme (By similarity). {ECO:0000250|UniProtKB:Q8CDJ3}

ATG14 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ATG14 Antibody - Images



Western blot analysis of ATG14 in human small intestine tissue lysate with ATG14 antibody at (A) 1 and (B) 2 µg/mL.

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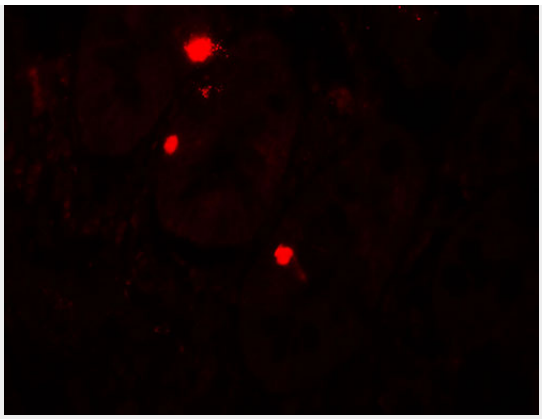

Immunofluorescence of ATG14 in human small intestine tissue with ATG14 antibody at 20 µg/mL.

ATG14 Antibody - Background

ATG14 Antibody: Autophagy, the process of bulk degradation of cellular proteins through an autophagosomic-lysosomal pathway is important for normal growth control and may be defective in tumor cells. It is involved in the preservation of cellular nutrients under starvation conditions as well as the normal turnover of cytosolic components. This process is negatively regulated by TOR (Target of rapamycin) through phosphorylation of autophagy protein ATG1. ATG14 is a subunit of a class III phosphatidylinositol (PtdIns) 3-kinase complex that targets the complex to the endoplasmic reticulum, the site of autophagosome formation.

ATG14 Antibody - References

Gozuacik D and Kimchi A. Autophagy as a cell death and tumor suppressor mechanism. Oncogene 2004; 23:2891-906.
Kisen GO, Tessitore L, Costelli P, et al. Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites hepatoma cells. Carcinogenesis 1993; 14:2501-5.
Kamada Y, Funakoshi T, Shintani T, et al. Tor-mediated induction of autophagy via Apg1 protein kinase complex. J. Cell. Biol. 2000; 150:1507-13.
Itakura E, Kishi C, Inoue K, et al. Beclin 1 forms two distinct phosphatidylinositol 3-kinase complexes with mammalian Atg14 and UVRAG. Mol. Biol. Cell 2008; 19:5360-72.