

**ATG4C Antibody**  
Catalog # ASC11828**Specification****ATG4C Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">Q96DT6</a>
Other Accession	<a href="#">NP_835739</a> , <a href="#">30410846</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 50 kDa
Application Notes	Observed: 57 kDa KDa ATG4C antibody can be used for detection of ATG4C by Western blot at 1 - 2 µg/ml. Antibody can also be used for Immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.

**ATG4C Antibody - Additional Information**Gene ID **84938****Target/Specificity**

ATG4C; ATG4C antibody is human, mouse and rat reactive. ATG4C is predicted to not cross-react with other ATG4 proteins.

**Reconstitution & Storage**

ATG4C antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions**

ATG4C Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**ATG4C Antibody - Protein Information**

**Name** ATG4C {ECO:0000303|PubMed:21177865, ECO:0000312|HGNC:HGNC:16040}

**Function**

Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed:[21177865](http://www.uniprot.org/citations/21177865), PubMed:[29458288](http://www.uniprot.org/citations/29458288), PubMed:[30661429](http://www.uniprot.org/citations/30661429)). The protease activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins MAP1LC3 and GABARAPL2, to reveal a C-terminal glycine (PubMed:[21177865](http://www.uniprot.org/citations/21177865)). Exposure of the glycine at the C-terminus is essential for ATG8 proteins conjugation to

phosphatidylethanolamine (PE) and insertion to membranes, which is necessary for autophagy (By similarity). In addition to the protease activity, also mediates delipidation of ATG8 family proteins (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). Catalyzes delipidation of PE-conjugated forms of ATG8 proteins during macroautophagy (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). Compared to ATG4B, the major protein for proteolytic activation of ATG8 proteins, shows weaker ability to cleave the C-terminal amino acid of ATG8 proteins, while it displays stronger delipidation activity (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>). In contrast to other members of the family, weakly or not involved in phagophore growth during mitophagy (PubMed:<a href="http://www.uniprot.org/citations/33773106" target="\_blank">33773106</a>).

#### Cellular Location

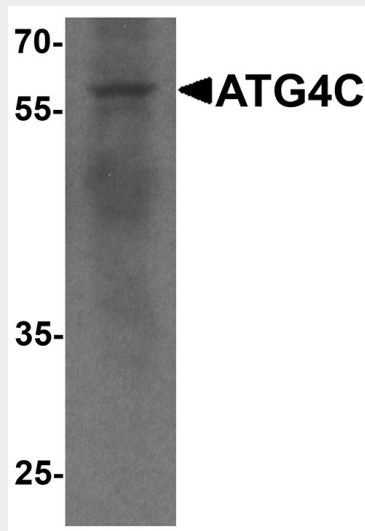
Cytoplasm {ECO:0000250|UniProtKB:Q8BGE6}.

#### ATG4C Antibody - Protocols

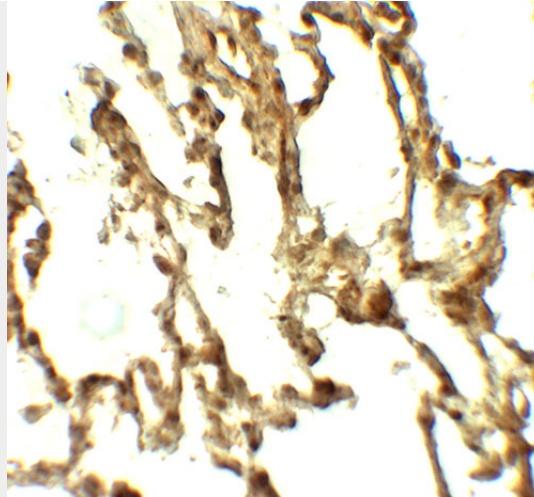
Provided below are standard protocols that you may find useful for product applications.

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

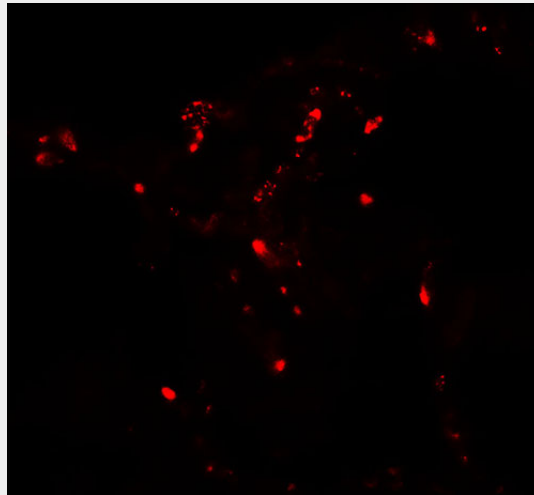
#### ATG4C Antibody - Images



Western blot analysis of ATG4C in A549 cell lysate with ATG4C antibody at 1 µg/ml.



Immunohistochemistry of ATG4C in human lung tissue with ATG4C antibody at 5 µg/ml.



Immunofluorescence of ATG4C in human lung tissue with ATG4C antibody at 20 µg/ml.

### **ATG4C Antibody - Background**

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 (1,2). ATG4C, also known as autophagin-3, is one of four mammalian orthologs of the yeast ATG4 protein; all four are cysteine proteases (3). Recent studies have shown that ATG4C and Beclin-1 are regulated by the microRNA miR-376b; overexpression of miR-376b led to decreased mRNA and protein levels, thereby blocking starvation and TOR inhibition-related autophagy (4).

### **ATG4C 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.
- Marino G, Uria JA, Puente XS, et al. Human autophagins, a family of cysteine proteinases potentially implicated in cell degradation by autophagy. *J. Biol. Chem.* 2003; 278:3671-8.
- Korkmaz G, le Sage C, Tekirdag KA, et al. miR-376b controls starvation and TOR inhibition-related autophagy by targeting ATG4C and BECN1. *Autophagy* 2012; 8:165-76.