

**Atg4B Antibody**  
Rabbit mAb  
Catalog # AP91335

## Specification

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### Atg4B Antibody - Product Information

Application	WB, FC
Primary Accession	<a href="#">O9Y4P1</a>
Reactivity	Rat
Clonality	Monoclonal
<b>Other Names</b>	
Cysteine protease ATG4B; Autophagin-1; Autophagy-related cysteine endopeptidase 1; Autophagy-related protein 4 homolog B; hAPG4B;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	44294 Da

### Atg4B Antibody - Additional Information

Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human Atg4B
Description	Cysteine protease required for autophagy, which cleaves the C-terminal part of either MAP1LC3, GABARAPL2 or GABARAP, allowing the liberation of form I. A subpopulation of form I is subsequently converted to a smaller form (form II).
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

### Atg4B Antibody - Protein Information

**Name** ATG4B {ECO:0000303|PubMed:15187094, ECO:0000312|HGNC:HGNC:20790}

#### Function

Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/15187094" target="\_blank">15187094</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/19322194" target="\_blank">19322194</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/22302004" target="\_blank">22302004</a>, PubMed:<a href="http://www.uniprot.org/citations/26378241" target="\_blank">26378241</a>, PubMed:<a

href="http://www.uniprot.org/citations/27527864" target="\_blank">27527864</a>, PubMed:<a href="http://www.uniprot.org/citations/28633005" target="\_blank">28633005</a>, PubMed:<a href="http://www.uniprot.org/citations/28821708" target="\_blank">28821708</a>, PubMed:<a href="http://www.uniprot.org/citations/29232556" target="\_blank">29232556</a>, PubMed:<a href="http://www.uniprot.org/citations/30076329" target="\_blank">30076329</a>, PubMed:<a href="http://www.uniprot.org/citations/30443548" target="\_blank">30443548</a>, PubMed:<a href="http://www.uniprot.org/citations/30661429" target="\_blank">30661429</a>). Required for canonical autophagy (macroautophagy), non-canonical autophagy as well as for mitophagy (PubMed:<a href="http://www.uniprot.org/citations/33773106" target="\_blank">33773106</a>, PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). The protease activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins MAP1LC3A, MAP1LC3B, MAP1LC3C, GABARAPL1, GABARAPL2 and GABARAP, to reveal a C- terminal glycine (PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/15187094" target="\_blank">15187094</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/19322194" target="\_blank">19322194</a>, PubMed:<a href="http://www.uniprot.org/citations/20818167" target="\_blank">20818167</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/22302004" target="\_blank">22302004</a>, PubMed:<a href="http://www.uniprot.org/citations/27527864" target="\_blank">27527864</a>, PubMed:<a href="http://www.uniprot.org/citations/28287329" target="\_blank">28287329</a>, PubMed:<a href="http://www.uniprot.org/citations/28633005" target="\_blank">28633005</a>, PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/30661429" target="\_blank">30661429</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/15187094" target="\_blank">15187094</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/19322194" target="\_blank">19322194</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/22302004" target="\_blank">22302004</a>). Protease activity is also required to counteract formation of high-molecular weight conjugates of ATG8 proteins (ATG8ylation): acts as a deubiquitinating-like enzyme that removes ATG8 conjugated to other proteins, such as ATG3 (PubMed:<a href="http://www.uniprot.org/citations/31315929" target="\_blank">31315929</a>, PubMed:<a href="http://www.uniprot.org/citations/33773106" target="\_blank">33773106</a>). In addition to the protease activity, also mediates delipidation of ATG8 family proteins (PubMed:<a href="http://www.uniprot.org/citations/15187094" target="\_blank">15187094</a>, PubMed:<a href="http://www.uniprot.org/citations/19322194" target="\_blank">19322194</a>, PubMed:<a href="http://www.uniprot.org/citations/28633005" target="\_blank">28633005</a>, PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/32686895" target="\_blank">32686895</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/15187094" target="\_blank">15187094</a>, PubMed:<a href="http://www.uniprot.org/citations/19322194" target="\_blank">19322194</a>, PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/32686895" target="\_blank">32686895</a>, PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). Also involved in non-canonical autophagy, a parallel pathway involving conjugation of ATG8 proteins to single membranes at endolysosomal compartments, by catalyzing delipidation of ATG8 proteins conjugated to phosphatidylserine (PS) (PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). Compared to other members of the family (ATG4A, ATG4C or ATG4C), constitutes the major protein for proteolytic activation of ATG8 proteins, while it displays weaker delipidation activity than other

ATG4 paralogs (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/30661429" target="\_blank">30661429</a>). Involved in phagophore growth during mitophagy independently of its protease activity and of ATG8 proteins: acts by regulating ATG9A trafficking to mitochondria and promoting phagophore-endoplasmic reticulum contacts during the lipid transfer phase of mitophagy (PubMed:<a href="http://www.uniprot.org/citations/33773106" target="\_blank">33773106</a>).

#### Cellular Location

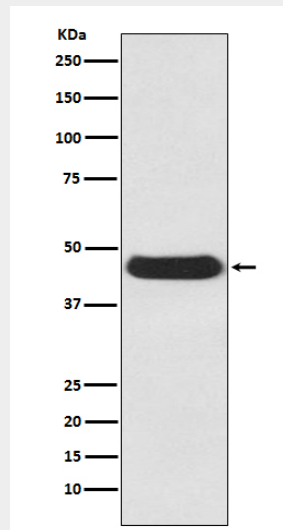
Cytoplasm. Cytoplasm, cytosol. Cytoplasmic vesicle, autophagosome. Endoplasmic reticulum. Mitochondrion. Note=Mainly localizes to the cytoplasm, including cytosol (PubMed:29165041). A small portion localizes to mitochondria; phosphorylation at Ser-34 promotes localization to mitochondria (PubMed:29165041).

#### Atg4B 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](#)

#### Atg4B Antibody - Images



Western blot analysis of Atg4B expression in Ramos cell lysate.