

**Anti-ATG4B Antibody**  
Rabbit polyclonal antibody to ATG4B  
Catalog # AP60226

### Specification

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#### Anti-ATG4B Antibody - Product Information

Application	WB
Primary Accession	<a href="#">O9Y4P1</a>
Other Accession	<a href="#">O8BGE6</a>
Reactivity	Human, Mouse, Rat, Monkey
Host	Rabbit
Clonality	Polyclonal
Calculated MW	44294

#### Anti-ATG4B Antibody - Additional Information

Gene ID 23192

#### Other Names

APG4B; AUTL1; KIAA0943; Cysteine protease ATG4B; AUT-like 1 cysteine endopeptidase; Autophagin-1; Autophagy-related cysteine endopeptidase 1; Autophagy-related protein 4 homolog B; hAPG4B

#### Target/Specificity

Recognizes endogenous levels of ATG4B protein.

#### Dilution

WB~~WB (1/500 - 1/1000), IH (1/100 - 1/200)

#### Format

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

#### Storage

Store at -20 °C. Stable for 12 months from date of receipt

#### Anti-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

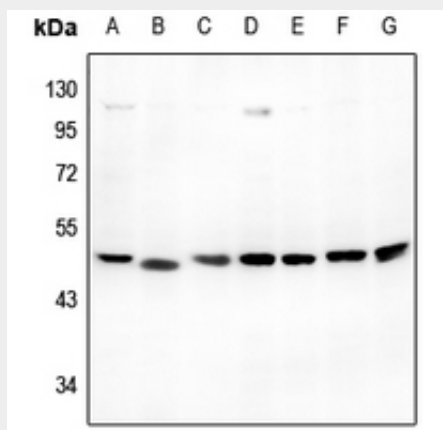
Cytoplasm. Cytoplasm, cytosol. Cytoplasmic vesicle, autophagosome. Endoplasmic reticulum. Mitochondrion. Note=Mainly localizes to the cytoplasm, including cytosol (PubMed:29165041). A small portion localizes to mitochondria; phosphorylation at Ser-34 promotes localization to mitochondria (PubMed:29165041).

#### Anti-ATG4B Antibody - Protocols

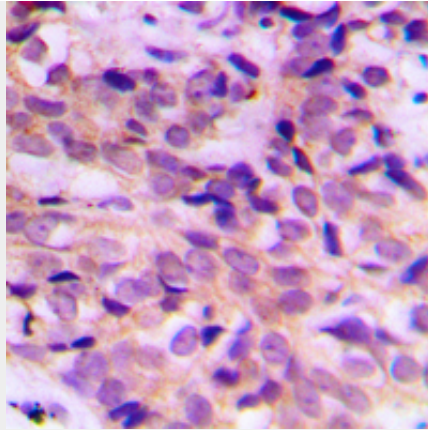
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

#### Anti-ATG4B Antibody - Images



Western blot analysis of ATG4B expression in mouse testis (A), rat testis (B), C6 (C), HeLa (D), PC3 (E), DLD (F), U87MG (G) whole cell lysates.



Immunohistochemical analysis of ATG4B staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

#### **Anti-ATG4B Antibody - Background**

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ATG4B. The exact sequence is proprietary.