

Anti-ATG4B Antibody

Rabbit polyclonal antibody to ATG4B
Catalog # AP60226

Product Information

Application	WB, IHC
Primary Accession	Q9Y4P1
Other Accession	Q8BGE6
Reactivity	Human, Mouse, Rat, Monkey
Host	Rabbit
Clonality	Polyclonal
Calculated MW	44294

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	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ATG4B. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (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

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: 15169837 , PubMed: 15187094 , PubMed: 17347651 , PubMed: 19322194 , PubMed: 21177865 , PubMed: 22302004 , PubMed: 26378241 , PubMed: 27527864 , PubMed: 28633005 , PubMed: 28821708 , PubMed: 29232556 , PubMed: 30076329 , PubMed: 30443548 , PubMed: 30661429). Required for canonical autophagy (macroautophagy), non-canonical autophagy as well as for mitophagy (PubMed: 33773106 , PubMed: 33909989). 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:[15169837](#), PubMed:[15187094](#), PubMed:[17347651](#), PubMed:[19322194](#), PubMed:[20818167](#), PubMed:[21177865](#), PubMed:[22302004](#), PubMed:[27527864](#), PubMed:[28287329](#), PubMed:[28633005](#), PubMed:[29458288](#), PubMed:[30661429](#)). 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:[15169837](#), PubMed:[15187094](#), PubMed:[17347651](#), PubMed:[19322194](#), PubMed:[21177865](#), PubMed:[22302004](#)). 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:[31315929](#), PubMed:[33773106](#)). In addition to the protease activity, also mediates delipidation of ATG8 family proteins (PubMed:[15187094](#), PubMed:[19322194](#), PubMed:[28633005](#), PubMed:[29458288](#), PubMed:[32686895](#), PubMed:[33909989](#)). Catalyzes delipidation of PE- conjugated forms of ATG8 proteins during macroautophagy (PubMed:[15187094](#), PubMed:[19322194](#), PubMed:[29458288](#), PubMed:[32686895](#), PubMed:[33909989](#)). 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:[33909989](#)). 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:[29458288](#), PubMed:[30661429](#)). 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:[33773106](#)).

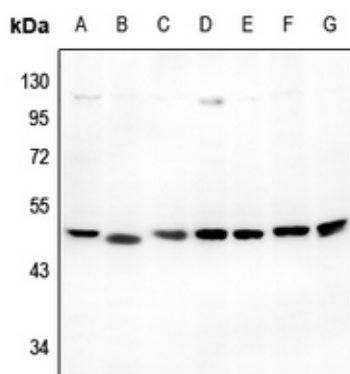
Cellular Location

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](#)).

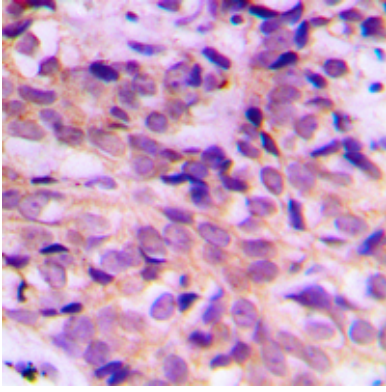
Background

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

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.

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