

ATG4A Polyclonal Antibody
Catalog # AP74330**Specification****ATG4A Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	Q8WYN0
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

ATG4A Polyclonal Antibody - Additional Information

Gene ID 115201

Other Names

Cysteine protease ATG4A (EC 3.4.22.-) (AUT-like 2 cysteine endopeptidase) (Autophagin-2) (Autophagy-related cysteine endopeptidase 2) (Autophagy-related protein 4 homolog A) (hAPG4A)

Dilution

WB~~WB 1:500-2000, ELISA 1:10000-20000

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

ATG4A Polyclonal Antibody - Protein Information

Name ATG4A {ECO:0000303|Ref.20, ECO:0000312|HGNC:HGNC:16489}

Function

Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed: [12473658](http://www.uniprot.org/citations/12473658), PubMed: [15169837](http://www.uniprot.org/citations/15169837), PubMed: [17347651](http://www.uniprot.org/citations/17347651), PubMed: [21177865](http://www.uniprot.org/citations/21177865), PubMed: [21245471](http://www.uniprot.org/citations/21245471), PubMed: [22302004](http://www.uniprot.org/citations/22302004), PubMed: [32732290](http://www.uniprot.org/citations/32732290)). The protease activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins to reveal a C-terminal glycine (PubMed: [12473658](http://www.uniprot.org/citations/12473658), PubMed: [15169837](http://www.uniprot.org/citations/15169837), PubMed: [17347651](http://www.uniprot.org/citations/17347651), PubMed: [21177865](http://www.uniprot.org/citations/21177865), PubMed: [21245471](http://www.uniprot.org/citations/21245471), PubMed: [22302004](http://www.uniprot.org/citations/22302004), PubMed: [32732290](http://www.uniprot.org/citations/32732290)).

<http://www.uniprot.org/citations/21245471> target="_blank">21245471, PubMed:22302004). 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:12473658, PubMed:15169837, PubMed:17347651, PubMed:21177865, PubMed:21245471, PubMed:22302004). Preferred substrate is GABARAPL2 followed by MAP1LC3A and GABARAP (PubMed:12473658, PubMed:15169837, PubMed:17347651, PubMed:21177865, PubMed:21245471, 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:29458288, PubMed:33909989). Catalyzes delipidation of PE- conjugated forms of ATG8 proteins during macroautophagy (PubMed:29458288, PubMed:33909989). 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:29458288). 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

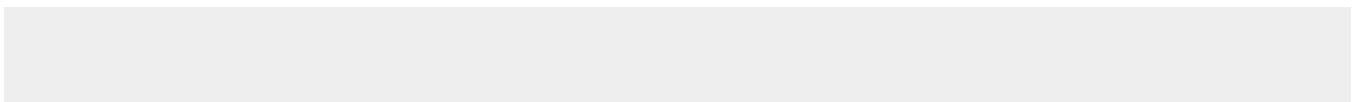
Cytoplasm {ECO:0000250|UniProtKB:Q8BGE6}.

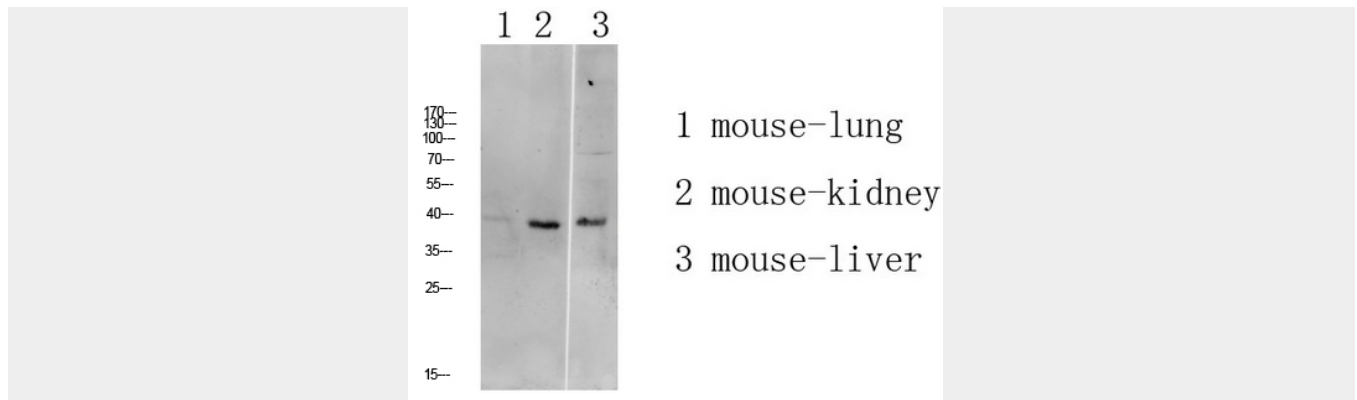
ATG4A Polyclonal Antibody - Protocols

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](#)

ATG4A Polyclonal Antibody - Images





Western blot analysis of mouse-liver lysate, antibody was diluted at 1000. Secondary antibody was diluted at 1:20000

ATG4A Polyclonal Antibody - Background

Cysteine protease required for the cytoplasm to vacuole transport (Cvt) and autophagy. Cleaves the C-terminal amino acid of ATG8 family proteins to reveal a C-terminal glycine. 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. Preferred substrate is GABARAPL2 followed by MAP1LC3A and GABARAP. Has also an activity of delipidating enzyme for the PE-conjugated forms.