

**Goat Anti-ATG4A Antibody (internal region)**  
**Purified Goat Polyclonal Antibody**  
**Catalog # AF4214a**

**Specification**

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**Goat Anti-ATG4A Antibody (internal region) - Product Information**

Application	IHC-P
Primary Accession	<a href="#">O8WYN0</a>
Other Accession	<a href="#">NP_443168.2</a> , <a href="#">NP_840054.1</a>
Reactivity	Human
Predicted	Human
Host	Goat
Clonality	Polyclonal
Concentration	0.5
Calculated MW	45378

**Goat Anti-ATG4A Antibody (internal region) - Additional Information**

**Gene ID** 115201

**Other Names**

ATG4A; ATG4 autophagy related 4 homolog A (*S. cerevisiae*); APG4A; AUTL2; APG4 autophagy 4 homolog A; AUT-like 2, cysteine endopeptidase; OTTHUMP00000062893; autophagin 2; autophagy-related cysteine endopeptidase 2

**Format**

Supplied at 0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin. Aliquot and store at -20°C. Minimize freezing and thawing.

**Immunogen**

Peptide with sequence TEENGTVNDQTFHC, from the internal region of the protein sequence according to [NP\\_443168.2](#); [NP\\_840054.1](#).

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-ATG4A Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-ATG4A Antibody (internal region) - 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:<a href="http://www.uniprot.org/citations/12473658" target="\_blank">12473658</a>, PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/21245471" target="\_blank">21245471</a>, PubMed:<a href="http://www.uniprot.org/citations/22302004" target="\_blank">22302004</a>, PubMed:<a href="http://www.uniprot.org/citations/32732290" target="\_blank">32732290</a>). 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:<a href="http://www.uniprot.org/citations/12473658" target="\_blank">12473658</a>, PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/21245471" target="\_blank">21245471</a>, PubMed:<a href="http://www.uniprot.org/citations/22302004" target="\_blank">22302004</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/12473658" target="\_blank">12473658</a>, PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/21245471" target="\_blank">21245471</a>, PubMed:<a href="http://www.uniprot.org/citations/22302004" target="\_blank">22302004</a>). Preferred substrate is GABARAPL2 followed by MAP1LC3A and GABARAP (PubMed:<a href="http://www.uniprot.org/citations/12473658" target="\_blank">12473658</a>, PubMed:<a href="http://www.uniprot.org/citations/15169837" target="\_blank">15169837</a>, PubMed:<a href="http://www.uniprot.org/citations/17347651" target="\_blank">17347651</a>, PubMed:<a href="http://www.uniprot.org/citations/21177865" target="\_blank">21177865</a>, PubMed:<a href="http://www.uniprot.org/citations/21245471" target="\_blank">21245471</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/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>). 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

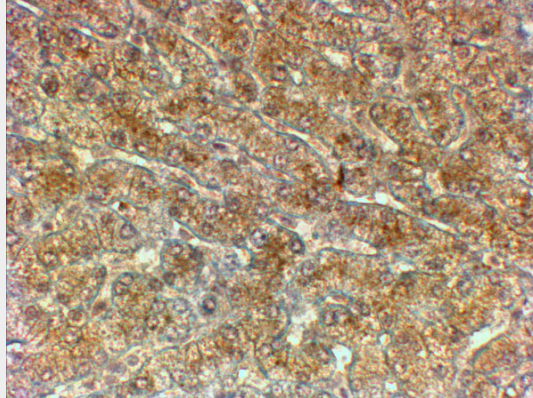
Cytoplasm {ECO:0000250|UniProtKB:Q8BGE6}.

### Goat Anti-ATG4A Antibody (internal region) - 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](#)

#### **Goat Anti-ATG4A Antibody (internal region) - Images**



AF4214a (2  $\mu\text{g/ml}$ ) staining of paraffin embedded Human Liver. Steamed antigen retrieval with citrate buffer pH 6, HRP-staining.

#### **Goat Anti-ATG4A Antibody (internal region) - References**

The COOH terminus of GATE-16, an intra-Golgi transport modulator, is cleaved by the human cysteine protease HsApg4A Scherz-Shouval R, Sagiv Y, Shorer H, Elazar Z J Biol Chem. 2003 Apr 18;278(16):14053-8. Epub 2002 Dec 7