

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

Specification

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

Application	IHC, E
Primary Accession	O8WYN0
Other Accession	NP_443168.2 , NP_840054.1
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

Dilution

IHC~~1:100~500

E~~N/A

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:12473658, PubMed:15169837, PubMed:17347651, PubMed:21177865, PubMed:21245471, PubMed:22302004, PubMed: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, PubMed:15169837, PubMed:17347651, PubMed:21177865, PubMed: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

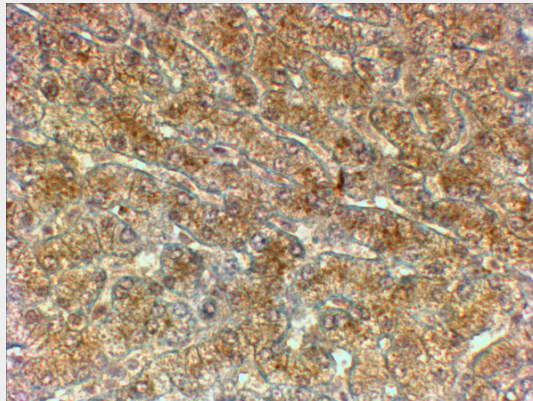
Cytoplasm {ECO:0000250|UniProtKB:Q8BGE6}.

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 μ 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