

ATG4D Antibody (internal region, near C-Term)
Peptide-affinity purified goat antibody
Catalog # AF2934a

Specification

ATG4D Antibody (internal region, near C-Term) - Product Information

Application	E
Primary Accession	Q86TL0
Other Accession	NP_116274.3 , 84971 , 235040 (mouse) , 686505 (rat)
Predicted Host	Human, Mouse, Rat, Pig, Dog
Clonality	Goat
Concentration	Polyclonal
Isotype	0.5 mg/ml
Calculated MW	IgG
	52922

ATG4D Antibody (internal region, near C-Term) - Additional Information

Gene ID 84971

Other Names

Cysteine protease ATG4D, 3.4.22.-, AUT-like 4 cysteine endopeptidase, Autophagin-4, Autophagy-related cysteine endopeptidase 4, Autophagy-related protein 4 homolog D, Cysteine protease ATG4D, mitochondrial, ATG4D, APG4D, AUTL4

Format

0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

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

ATG4D Antibody (internal region, near C-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

ATG4D Antibody (internal region, near C-Term) - Protein Information

Name ATG4D {ECO:0000303|PubMed:19549685, ECO:0000312|HGNC:HGNC:20789}

Function

[Cysteine protease ATG4D]: Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed:21177865, PubMed:29458288, PubMed:30661429). The protease

activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins MAP1LC3 and GABARAPL2, to reveal a C-terminal glycine (PubMed:21177865). 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 (By similarity). 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). 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). ATG4D plays a role in the autophagy-mediated neuronal homeostasis in the central nervous system (By similarity). Compared to other members of the family (ATG4A, ATG4B or ATG4C), constitutes the major protein for the delipidation activity, while it promotes weak proteolytic activation of ATG8 proteins (By similarity). 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

[Cysteine protease ATG4D]: Cytoplasm

Tissue Location

Widely expressed in testis.

ATG4D Antibody (internal region, near C-Term) - 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](#)

ATG4D Antibody (internal region, near C-Term) - Images

ATG4D Antibody (internal region, near C-Term) - References

Human autophagins, a family of cysteine proteinases potentially implicated in cell degradation by autophagy. Mariño G, Uría JA, Puente XS, Quesada V, Bordallo J, López-Otín C. The Journal of biological chemistry 2003 Feb 278 (6): 3671-8. PMID: 12446702