

# Anti-ATG4D Antibody

Rabbit polyclonal antibody to ATG4D

Catalog # AP60872

## Product Information

Application	WB, IP, IHC
Primary Accession	<a href="#">Q86TL0</a>
Other Accession	<a href="#">Q8BGV9</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	52922

## Additional Information

Gene ID	84971
Other Names	APG4D; AUTL4; Cysteine protease ATG4D; AUT-like 4 cysteine endopeptidase; Autophagin-4; Autophagy-related cysteine endopeptidase 4; Autophagy-related protein 4 homolog D
Target/Specificity	Recognizes endogenous levels of ATG4D protein.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/50 - 1/100), IP (1/10 - 1/100) IP~~N/A IHC~~WB (1/500 - 1/1000), IHC (1/50 - 1/100), IP (1/10 - 1/100)
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	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: <a href="#">21177865</a> , PubMed: <a href="#">29458288</a> , PubMed: <a href="#">30661429</a> ). 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: <a href="#">21177865</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 (By similarity). In addition to the protease activity, also mediates delipidation of ATG8 family proteins (PubMed: <a href="#">29458288</a> , PubMed: <a href="#">33909989</a> ). 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](#)).

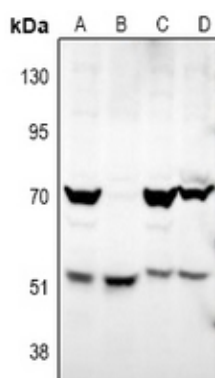
**Cellular Location** [Cysteine protease ATG4D]: Cytoplasm

**Tissue Location** Widely expressed in testis.

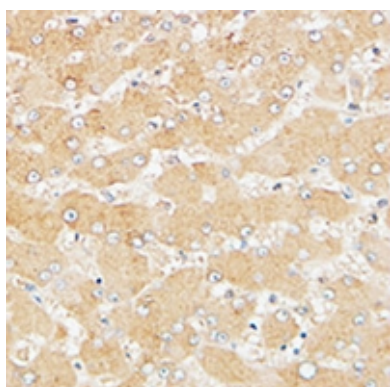
## Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ATG4D. The exact sequence is proprietary.

## Images



Western blot analysis of ATG4D expression in Hela (A), A549 (B), PC12 (C), CT26 (D) whole cell lysates.



Immunohistochemical analysis of ATG4D staining in human liver 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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