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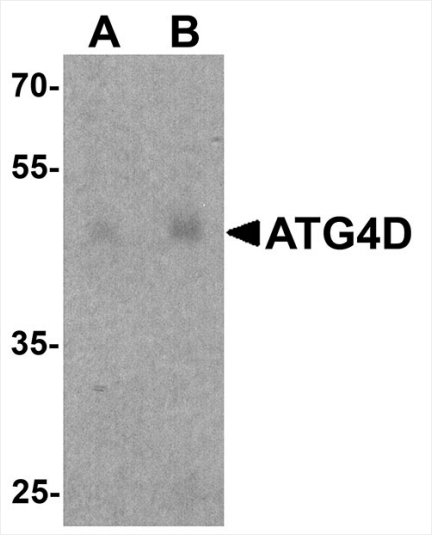
ATG4D Antibody
Catalog # ASC11885

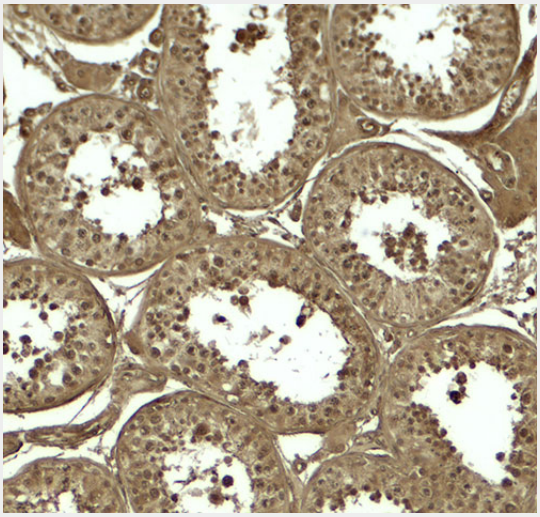
Specification

ATG4D Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	Q86TL0
Other Accession	NP_116274, 27903825
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 52 kDa** **Observed: 49 kDa KDa**
Application Notes	**ATG4D antibody can be used for detection of ATG4D by Western blot at 1 - 2 µg/ml. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**



Western blot analysis of ATG4D in human testis tissue lysate with ATG4D antibody at (A) 1 and (B) 2 µg/ml.



Immunohistochemistry of ATG4D in human testis tissue with ATG4D antibody at 5 µg/ml.

ATG4D Antibody - Additional Information

Gene ID **84971**

Target/Specificity
ATG4D; ATG4D antibody is human, mouse and rat reactive. At least two isoforms of ATG4D are known to exist; this antibody will detect only the larger isoform. ATG4D is predicted to not cross-react with other ATG4 proteins.

Reconstitution & Storage
ATG4D antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.

Precautions
ATG4D Antibody is for research use only and not for use in diagnostic or therapeutic

procedures.

ATG4D Antibody - Protein Information

Name ATG4D

Synonyms APG4D, AUTL4

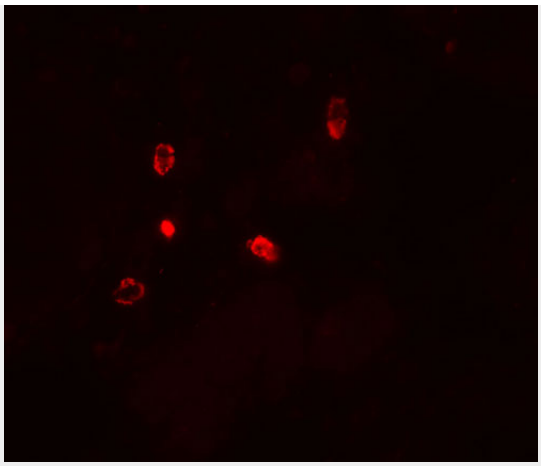
Function
[Cysteine protease ATG4D]: Cysteine protease required for the cytoplasm to vacuole transport (Cvt) and autophagy. Cleaves the C- terminal amino acid of ATG8 family proteins MAP1LC3 and GABARAPL2, to reveal a C-terminal glycine. Exposure of the glycine at the C-terminus is essential for ATG8 proteins conjugation to phosphatidylethanolamine (PE) and insertion to membranes, which is necessary for autophagy. Has also an activity of delipidating enzyme for the PE-conjugated forms.

Cellular Location
[Cysteine protease ATG4D]: Cytoplasm

ATG4D 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 Cytomety
- Cell Culture



Immunofluorescence of ATG4D in human testis tissue with ATG4D antibody at 20 µg/ml.

ATG4D Antibody - Background

Autophagy, the process of bulk degradation of cellular proteins through an autophagosomic-lysosomal pathway is important for normal growth control and may be defective in tumor cells. It is involved in the preservation of cellular nutrients under starvation conditions as well as the normal turnover of cytosolic components (1,2). ATG4D, also known as AUTL4, is one of four mammalian orthologs of the yeast ATG4 protein; all four are cysteine proteases (3). ATG4 is required for ATG8 conjugation to phosphatidylethanolamine on autophagosomal membranes. In mammals, each ATG4 homolog shows a selective preference for the ATG8 homologs (4).

ATG4D Antibody - References

Gozuacik D and Kimchi A. Autophagy as a cell death and tumor suppressor mechanism. Oncogene 2004; 23:2891-906.
Kisen GO, Tessitore L, Costelli P, et al. Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites hepatoma cells. Carcinogenesis 1993; 14:2501-5.
Marino G, Uria JA, Puente XS, et al. Human autophagins, a family of cysteine proteinases potentially implicated in cell degradation by autophagy. J. Biol. Chem. 2003; 278:3671-8.
Li M, Hou Y, Wang J, et al. Kinetic comparisons of mammalian Atg4 homologues indicate selective preferences towards diverse Atg8

substrates. J. Biol. Chem. 2011; 286:7327-38.