

## ATG5 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)  
 Catalog # AP1812a-400 □

### Specification

#### ATG5 Antibody (N-term) - Product info

Application	IHC-P-Leica, IF, WB
Primary Accession	<a href="#">Q9H1Y0</a>
Other Accession	<a href="#">Q3MQ06</a> , <a href="#">Q3MQ04</a> , <a href="#">Q99J83</a> , <a href="#">Q3MQ24</a>
Reactivity	Human
Predicted	Mouse, Rat, Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig

#### ATG5 Antibody (N-term) - Additional info

Gene ID 9474

#### Other Names

Autophagy protein 5, APG5-like, Apoptosis-specific protein,  
 ATG5, APG5L, ASP

#### Target/Specificity

This ATG5 antibody is generated from rabbits immunized with  
 a KLH conjugated synthetic peptide between 1-30 amino acids  
 from the N-terminal region of human ATG5.

#### Dilution

IHC-P-Leica~~1:500  
 WB~~1:1000  
 IF~~1:200

#### Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V)  
 sodium azide. This antibody is purified through a protein A  
 column, followed by peptide affinity purification.

#### Storage

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

#### Precautions

ATG5 Antibody (N-term) is for research use only and not for  
 use in diagnostic or therapeutic procedures.

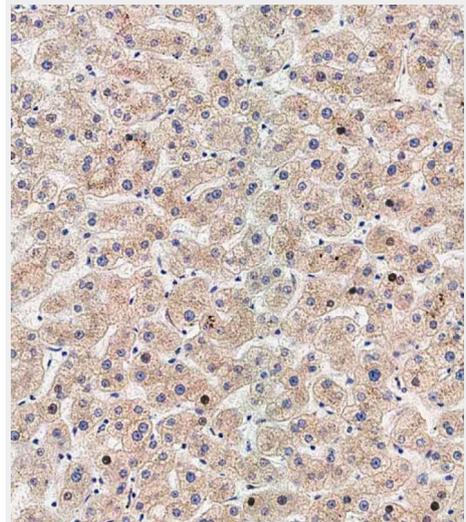
#### ATG5 Antibody (N-term) - Protein Information

Name ATG5

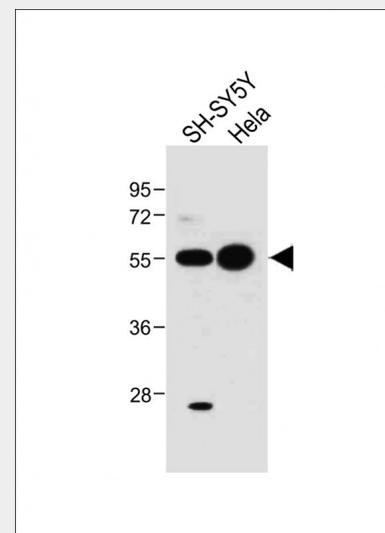
Synonyms APG5L, ASP

#### Function

Involved in autophagic vesicle formation. Conjugation with  
 ATG12, through a ubiquitin-like conjugating system involving



Immunohistochemical analysis of  
 paraffin-embedded human liver tissue  
 using AP1812a performed on the Leica®  
 BOND RXm. Tissue was fixed with  
 formaldehyde at room temperature,  
 antigen retrieval was by heat mediation  
 with a EDTA buffer (pH9. 0). Samples  
 were incubated with primary  
 antibody(1:500) for 1 hours at room  
 temperature. A undiluted biotinylated  
 CRF Anti-Polyvalent HRP Polymer  
 antibody was used as the secondary  
 antibody.



All lanes : Anti-hAPG5L-D3 at 1:1000  
 dilution Lane 1: SH-SY5Y whole cell lysate  
 Lane 2: HeLa whole cell lysate

ATG7 as an E1-like activating enzyme and ATG10 as an E2-like conjugating enzyme, is essential for its function. The ATG12-ATG5 conjugate acts as an E3-like enzyme which is required for lipidation of ATG8 family proteins and their association to the vesicle membranes. Involved in mitochondrial quality control after oxidative damage, and in subsequent cellular longevity. Plays a critical role in multiple aspects of lymphocyte development and is essential for both B and T lymphocyte survival and proliferation. Required for optimal processing and presentation of antigens for MHC II. Involved in the maintenance of axon morphology and membrane structures, as well as in normal adipocyte differentiation. Promotes primary ciliogenesis through removal of OFD1 from centriolar satellites and degradation of IFT20 via the autophagic pathway.

#### Cellular Location

Cytoplasm. Preautophagosomal structure membrane; Peripheral membrane protein Note=Colocalizes with nonmuscle actin. The conjugate detaches from the membrane immediately before or after autophagosome formation is completed (By similarity). Localizes also to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme

#### Tissue Location

Ubiquitous. The mRNA is present at similar levels in viable and apoptotic cells, whereas the protein is dramatically highly expressed in apoptotic cells

### ATG5 Antibody (N-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](#)

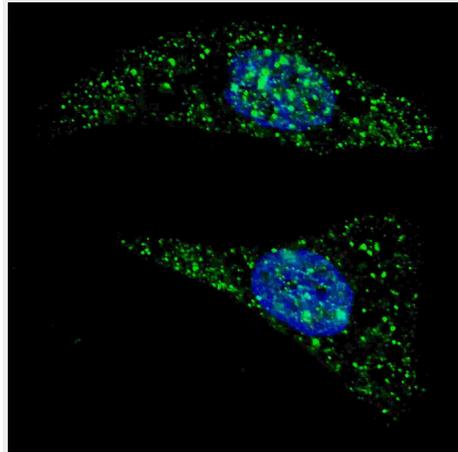
### ATG5 Antibody (N-term) - Background

Macroautophagy is the major inducible pathway for the general turnover of cytoplasmic constituents in eukaryotic cells, it is also responsible for the degradation of active cytoplasmic enzymes and organelles during nutrient starvation. Macroautophagy involves the formation of double-membrane bound autophagosomes which enclose the cytoplasmic constituent targeted for degradation in a membrane bound structure, which then fuse with the lysosome (or vacuole) releasing a single-membrane bound autophagic bodies which are then degraded within the lysosome (or vacuole). APG5, required for autophagy, conjugates to ATG12 and associates with an isolation membrane to form a cup-shaped isolation membrane and autophagosome. The conjugate detaches from the membrane immediately before or after autophagosome formation is completed. APG5 may also play an important role in the apoptotic process, possibly within the modified cytoskeleton. Its expression is a relatively late event in the apoptotic process, occurring downstream of caspase activity.

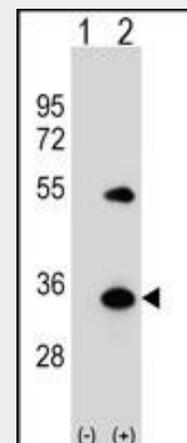
### ATG5 Antibody (N-term) - References

References for protein: 1.Baehrecke EH. Nat Rev Mol Cell Biol. 6(6):505-10. (2005) 2. Lum JJ, et al. Nat Rev Mol Cell Biol.

Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 32 kDa Blocking/Dilution buffer: 5% NFDN/TBST.



Fluorescent image of U251 cells stained with ATG5 (N-term) antibody. U251 cells were treated with Chloroquine (50 µM, 16h), then fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AP1812a ATG5 (N-term) primary antibody (1:200, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). ATG5 immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.



Western blot analysis of APG5L (arrow) using rabbit polyclonal APG5L Antibody (D3) (Cat. #AP1812a). 293 cell lysates (2 µg/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the APG5L gene.

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 autophagic vacuole accumulation and cell death in glioma cells is  
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#### ATG5 Antibody (N-term) - Citations

- [ATG5 Promotes Death Signaling in Response to the Cyclic Depsipeptides Coibamide A and Apratoxin A.](#)
- [Atg5flox-Derived Autophagy-Deficient Model of Pompe Disease: Does It Tell the Whole Story?](#)
- [The Detection Techniques for Autophagy-Associated Cell Death-Related Genes and Proteins: Gene Expression Assay and Immunohistochemistry.](#)
- [Effects of Combined Lysosomal and Mitochondrial Photodamage in a Non Small-Cell Lung Cancer Cell Line: the Role of Paraptosis.](#)
- [Studying Autophagy in Zebrafish.](#)
- [Promotion of Pro-Apoptotic Signals by Lysosomal Photodamage: Mechanistic Aspects and Influence of Autophagy.](#)
- [FGFR3/Fibroblast Growth Factor Receptor 3 Inhibits Autophagy through Decreasing the ATG12-ATG5 Conjugate. Leading to the Delay of Cartilage Development in Achondroplasia.](#)
- [Autophagy in spinal motor neurons of conditional ADAR2-knockout mice: an implication for a role of calcium in increased autophagy flux in ALS.](#)
- [Long-term artificial selection reveals a role of TCTP in autophagy in mammalian cells.](#)
- [Coxsackievirus B3 induces crosstalk between autophagy and apoptosis to benefit its release after replicating in autophagosomes through a mechanism involving caspase cleavage of autophagy-related proteins.](#)
- [Control of photoreceptor autophagy after retinal detachment: the switch from survival to death.](#)
- [Autophagosomes contribute to intracellular lipid distribution in enterocytes.](#)
- [Autophagy Induced by Tumor Necrosis Factor  \$\alpha\$  Mediates Intrinsic Apoptosis in Trophoblastic Cells.](#)
- [Down-regulation of autophagy-related protein 5 \(ATG5\) contributes to the pathogenesis of early-stage cutaneous melanoma.](#)
- [Phosphorylation of Atg5 by the Gadd45  \$\beta\$ -MEKK4-p38 pathway inhibits autophagy.](#)
- [Cell loss and autophagy in the extra-adrenal chromaffin organ of Zuckerkandl are regulated by glucocorticoid signalling.](#)
- [Arsenic trioxide enhances the radiation sensitivity of androgen-dependent and -independent human prostate cancer cells.](#)
- [Autophagy induced by deficiency of sphingosine-1-phosphate phosphohydrolase 1 is switched to apoptosis by calpain-mediated autophagy-related gene 5 \(Atg5\) cleavage.](#)
- [Expression pattern and functions of autophagy-related gene atg5 in zebrafish organogenesis.](#)
- [Arsenic trioxide induces autophagy and apoptosis in human glioma cells in vitro and in vivo through downregulation of survivin.](#)
- [A rapid method to improve protein detection by indirect ELISA.](#)
- [p62, Ref\(2\)P and ubiquitinated proteins are conserved markers of neuronal aging, aggregate formation and progressive autophagic defects.](#)
- [Sphingosine-1-phosphate phosphohydrolase-1 regulates ER stress-induced autophagy.](#)
- [Control of basal autophagy by calpain1 mediated cleavage of ATG5.](#)
- [An increase in intracellular Ca<sup>2+</sup> is required for the activation of mitochondrial calpain to release AIF during cell death.](#)