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ATG12 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1816a

Specification

ATG12 Antibody (N-term) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	O94817
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit Ig**
Antigen Region	**1-30**

ATG12 Antibody (N-term) - Additional Information

Gene ID 9140

Other Names
Ubiquitin-like protein ATG12, Autophagy-related protein 12, APG12-like, ATG12, APG12, APG12L

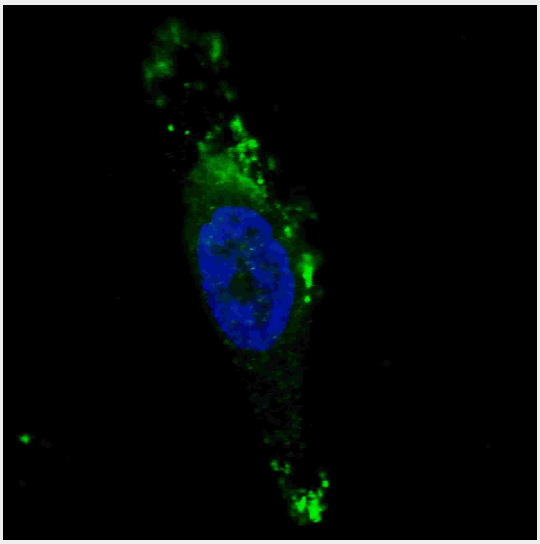
Target/Specificity
This ATG12 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human ATG12.

Dilution
IF~~1:200
WB~~1:2000
IHC-P~~1:50~100

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
ATG12 Antibody (N-term) is for research use only and not for use in diagnostic or



Fluorescent image of U251 cells stained with ATG12 (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 AP1816a ATG12 (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). ATG12 immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.

therapeutic procedures.

ATG12 Antibody (N-term) - Protein Information

Name ATG12

Synonyms APG12, APG12L

Function
Ubiquitin-like protein involved in autophagy vesicles formation. Conjugation with ATG5 through a ubiquitin-like conjugating system involving also 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.

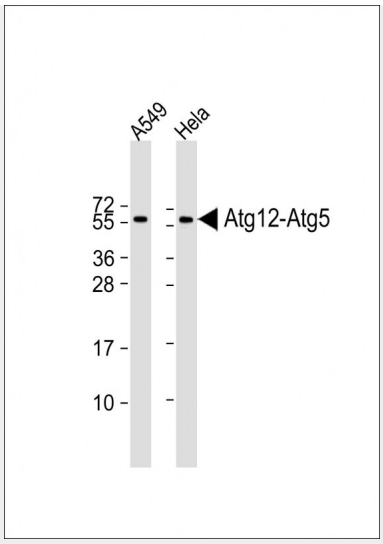
Cellular Location
Cytoplasm. Preautophagosomal structure membrane; Peripheral membrane protein. Note=TECPR1 recruits the ATG12- ATG5 conjugate to the autolysosomal membrane

Tissue Location
Ubiquitous..

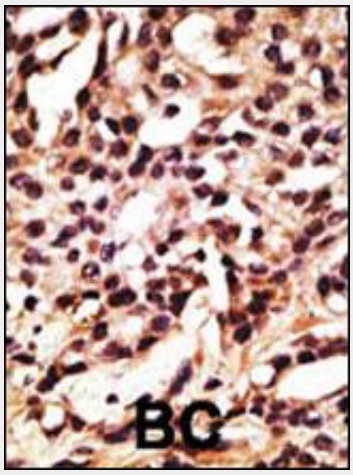
ATG12 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture



All lanes : Anti-APG12L Antibody (E3) at 1:2000 dilution Lane 1: A549 whole cell lysate Lane 2: Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 15 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

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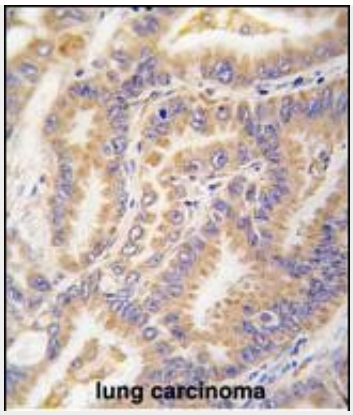

Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with Autophagy APG12L antibody (N-term) (Cat.#AP1816a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

ATG12 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).

APG12L is the human homolog of yeast APG12, a ubiquitin-activating enzyme E1-like protein essential for the conjugation system that mediates membrane fusion in autophagy.

ATG12 Antibody (N-term) - References

References for protein:
1.Yee, K.S. et al. Cell Death Differ. August; 16(8): 1135?145.(2009)
2.Baehrecke EH. Nat Rev Mol Cell Biol. 6(6):505-10. (2005)
3.Lum JJ, et al. Nat Rev Mol Cell Biol. 6(6):439-48. (2005)

4.Greenberg JT. Dev Cell. 8(6):799-801. (2005)
5.Levine B. Cell. 120(2):159-62. (2005)
6.Shintani T and Klionsky DJ. Science. 306(5698):990-5. (2004)
References for U251 cell line:
1. Westermark B.; Pontén J.; Hugosson R. (1973).” Determinants for the establishment of permanent tissue culture lines from human gliomas”. Acta Pathol Microbiol Scand A. 81:791-805. [PMID: 4359449].
2. Pontén, J.,Westermark B. (1978).” Properties of Human Malignant Glioma Cells in Vitro”. Medical Biology 56: 184-193.[PMID: 359950].
3. Geng Y.;Kohli L.; Klocke B.J.; Roth K.A.(2010). “Chloroquine-induced autophagic vacuole accumulation and cell death in glioma cells is p53 independent”. Neuro Oncol. 12(5): 473–481.[PMID: 20406898].

ATG12 Antibody (N-term) - Citations

- WIPI3 and WIPI4 β-propellers are scaffolds for LKB1-AMPK-TSC signalling circuits in the control of autophagy.
- HMGA2 plays an important role in Cr (VI)-induced autophagy.
- Interaction of caveolin-1 with ATG12-ATG5 system suppresses autophagy in lung epithelial cells.
- Activation of autophagy in mesenchymal stem cells provides tumor stromal support.
- PUMA- and Bax-induced autophagy contributes to apoptosis.
- Absence of the type I IFN system in EC cells: transcriptional activator (IRF-1) and repressor (IRF-2) genes are developmentally regulated.