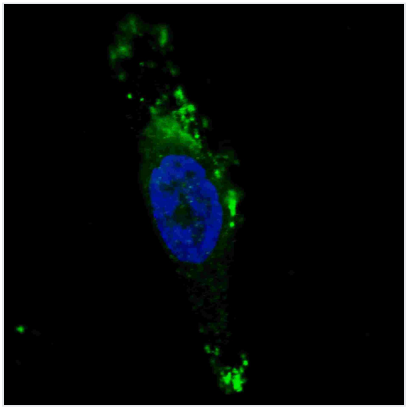
ATG12 Antibody – Rabbit Polyclonal

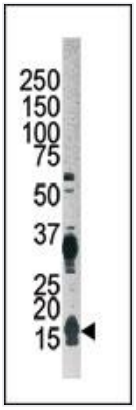
PRODUCT OVERVIEW

Product Name	ATG12, Polyclonal Antibody
Full Product Name	ATG12 Antibody (N-term)
Product Gene Name	anti-ATG12 antibody
Product Synonym Names	Ubiquitin-like protein ATG12; Autophagy-related protein 12; APG12-like; ATG12; APG12; APG12L
Clonality	Polyclonal
Isotype	Rabbit Ig
Host	Rabbit
Species Reactivity	Human
Form/Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Purity/Purification	Purified Rabbit Polyclonal Antibody (Pab)
Concentration	Vial Concentration: 2 (lot specific)
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.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.
Antibody/Peptide Pairs	ATG12 peptide (MBS9223201) is used for blocking the activity of ATG12 antibody (MBS9213526)
Molecular Weight	15113
Immunogen Sequence Positions	1-30
OMIM	609608
3D Structure	ModBase 3D Structure for O94817
Antigen Type	Synthetic Peptide
Antigen Source	HUMAN
Product Categories/Family for anti-ATG12 antibody	Cancer; Cardiovascular; Cell Biology; Metabolism; Autophagy
Applications Tested/Suitable for anti-ATG12 antibody	Immunofluorescence (IF), ELISA (EIA), Western Blot (WB), Immunohistochemistry (IHC)
Application Notes for anti-ATG12 antibody	IF~~1:200 WB~~1:1000
Related Product Information for anti-ATG12 antibody	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.

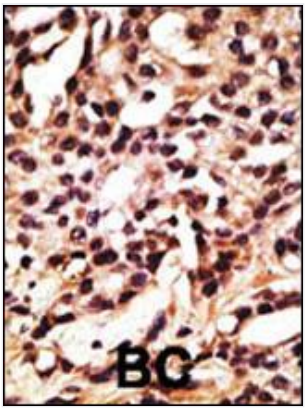
Product References and Citations for anti-ATG12 antibody	References for protein: 1.Yee, K.S. et al. Cell Death Differ. August; 16(8): 1135?145.(2009) 2.Baehrecke EH. Nat Rev Mol Cell Biol. 6(6):505-10. (2005) 3.Lum JJ, et al. Nat Rev Mol Cell Biol. 6(6):439-48. (2005) 4.Greenberg JT. Dev Cell. 8(6):799-801. (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].
Other Notes	Small volumes of anti-ATG12 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for ATG12 purchase	MBS9213526 is an antibody targeting ATG12. Also known as ATG12 Antibody (N-term). Reactive in Human. Host: Rabbit.



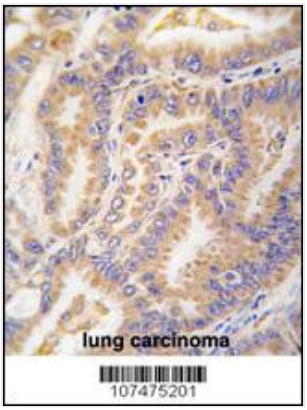
Immunofluorescence (IF) of anti-ATG12 antibody
Fluorescent image of U251 cells stained with ATG12 (N-term) antibody. U251 cells were treated with Chloroquine (50 uM,16h), then fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with MBS9213526 ATG12 (N-term) 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 ug/ml, 5 min). ATG12 immunoreactivity is localized to autophagic vacuoles in the cytoplasm of U251 cells.



Western Blot (WB) of anti-ATG12 antibody
Western blot analysis of anti-APG12L Pab in Hela cell lysate. APG12L (arrow) was detected using the purified Pab.



Immunohistochemistry (IHC) of anti-ATG12 antibody
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.



Immunohistochemistry (IHC) of anti-ATG12 antibody
Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with Autophagy APG12L antibody (N-term) , 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for ATG12. It may not necessarily be applicable to this product.

NCBI GI #	480540330
NCBI GeneID	9140
NCBI Accession #	NP_001264712.1
NCBI Related Accession #	NP_004698.3
UniProt Primary Accession #	O94817
UniProt Secondary Accession #	Q6PJV2
UniProt Related Accession #	O94817
GenBank Nucleotide #	NM_001277783.1
NCBI Official Full Name	ubiquitin-like protein ATG12 isoform 2
NCBI Official Synonym Full Names	autophagy related 12
NCBI Official Symbol	ATG12
NCBI Official Synonym Symbols	APG12; FBR93; APG12L; HAPG12
UniProt Protein Name	Ubiquitin-like protein ATG12
UniProt Synonym Protein Names	Autophagy-related protein 12; APG12-like
Protein Family	Autophagy protein
UniProt Gene Name	ATG12
UniProt Synonym Gene Names	APG12; APG12L; APG12-like
UniProt Entry Name	ATG12_HUMAN
NCBI Protein Information	ubiquitin-like protein ATG12
NCBI Summary for ATG12	Autophagy is a process of bulk protein degradation in which cytoplasmic components, including organelles, are enclosed in double-membrane structures called autophagosomes and delivered to lysosomes or vacuoles for degradation. ATG12 is the human homolog of a yeast protein involved in autophagy (Mizushima et al., 1998 [PubMed 9852036]).[supplied by OMIM, Mar 2008]
UniProt Comments for ATG12	ATG12: Ubiquitin-like protein required for autophagy. Conjugated to ATG3 and ATG5. Ubiquitous. Belongs to the ATG12 family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Autophagy; Ubiquitin-like modifier Chromosomal Location of Human Ortholog: 5q21-q22 Cellular Component: pre-autophagosomal structure membrane Molecular Function: protein binding; APG8 conjugating enzyme activity Biological Process: mitochondrion degradation; innate immune response; C-terminal protein lipidation; negative regulation of interferon type I production; cellular response to nitrogen starvation; autophagic vacuole formation
Research Articles on ATG12	**1.** The results revealed that the expression of Atg12 and LC3 II/LC3 I in the chondrocytes treated with TXC increased, compared to that in the untreated chondrocytes
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