10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ATG5 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8427b

Product Information

Application	WB, E
Primary Accession	Q9H1Y0
Reactivity	Human, Rat, Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1,κ
Clone Names	1358CT289.125.123
Calculated MW	32447
Antigen Region	1-275

Additional Information

Gene ID	9474
Other Names	Autophagy protein 5, APG5-like, Apoptosis-specific protein, ATG5, APG5L, ASP
Target/Specificity	This ATG5 antibody is generated from a mouse immunized with a recombination protein from the human region of human ATG5.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
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 is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATG5 (HGNC:589)
Synonyms	APG5L, ASP
Function	Involved in autophagic vesicle formation. Conjugation with ATG12, through a ubiquitin-like conjugating system involving 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. As part of the ATG8 conjugation system with ATG12 and ATG16L1, required for recruitment of LRRK2 to stressed lysosomes and induction of LRRK2 kinase activity in response to lysosomal stress (By similarity).
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). Also localizes to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme. Under starved conditions, the ATG12-ATG5-ATG16L1 complex is translocated to phagophores driven by RAB33B (PubMed:32960676). {ECO:0000250, ECO:0000269|PubMed:32960676}
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

Background

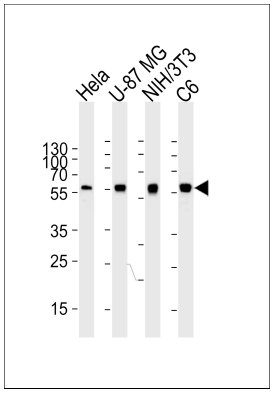
Involved in autophagy vesicles formation. Conjugation with ATG12 through an ubiquitin-like conjugating system involving ATG7 as an E1-like activating enzyme and ATG10 as an E2-like conjugating enzyme, is essential for its function. The ATG12-ATG5 conjugate acts as an E3-like enzyme which is required 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. The ATG12- ATG5 conjugate also regulates negatively the innate antiviral immune response by blocking the type I IFN production pathway through direct association with RARRES3 and MAVS. Plays also a role in translation or delivery of incoming viral RNA to the translation apparatus. HCV utilizes ATG5 as a proviral factor during the onset of viral infection. 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.

References

Hammond E.M.,et al.FEBS Lett. 425:391-395(1998).
Chen Y.,et al.Submitted (AUG-2000) to the EMBL/GenBank/DDBJ databases.
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Mungall A.J.,et al.Nature 425:805-811(2003).
Grand R.J.A.,et al.Exp. Cell Res. 218:439-451(1995).

Images

Western blot analysis of lysates from Hela, U-87 MG, mouse NIH/3T3, rat C6 cell line (from left to right), using ATG5 Antibody(Cat. #AM8427b). AM8427b was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at



1:3000 dilution was used as the secondary antibody.
Lysates at 35µg per lane.