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ATG5 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2037a

Product Information

Application	WB, FC, ICC, E
Primary Accession	Q9H1Y0
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	8E8G6
Isotype	IgG2a
Calculated MW	32447
Description	ATG5 involved in autophagic vesicle formation. Conjugation with ATG12, through a ubiquitin-like conjugatingsystem involving ATG7 as an E1-like activating enzyme and ATG10 as an E2-like conjugating enzyme, is essentialfor its function. The ATG12-ATG5 conjugate acts as an E3-like enzyme which is required for lipidation of ATG8family proteins and their association to the vesicle membranes. Involved in mitochondrial quality control afteroxidative damage, and in subsequent cellular longevity. The ATG12-ATG5 conjugate also negatively regulates theinnate antiviral immune response by blocking the type I IFN production pathway through direct association withRARRES3 and MAVS. Also plays a role in translation or delivery of incoming viral RNA to the translationapparatus. Plays a critical role in multiple aspects of lymphocyte development and is essential for both B and Tlymphocyte 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 adipocytedifferentiation. Promotes primary ciliogenesis through removal of OFD1 from centriolar satellites and degradationof IFT20 via the autophagic pathway
Immunogen	Synthesized peptide of human ATG5 (AA: MTDDKDVLRDVWFGRIc).
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	9474
Other Names	Autophagy protein 5, APG5-like, Apoptosis-specific protein, ATG5, APG5L, ASP
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. 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

References

Autophagy. 2013 Jan;9(1):20-32. Anticancer Res. 2012 Sep;32(9):4091-6.

Images

