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

ATG12 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1816a

Product Information

Application	WB, E
Primary Accession	O94817
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b, Igk
Clone Names	43CT73.3.5.5.4
Calculated MW	15113

Additional Information

Gene ID	9140
Other Names	Ubiquitin-like protein ATG12, Autophagy-related protein 12, APG12-like, ATG12, APG12, APG12L
Target/Specificity	APG12L recombinant protein is used to produce this monoclonal antibody.
Dilution	WB~~1:200~2000 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	ATG12 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATG12 (HGNC:588)
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. As part of the ATG8 conjugation system with ATG5 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=TECPR1 recruits the ATG12- ATG5 conjugate to the autolysosomal membrane
Tissue Location	Ubiquitous..

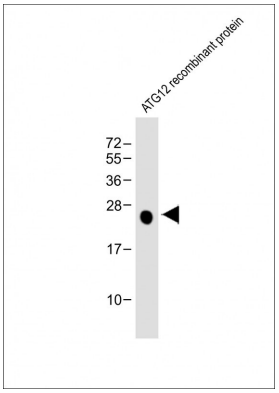
Background

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]).

References

Control of basal autophagy by calpain1 mediated cleavage of ATG5. Xia HG, et al. Autophagy, 2010 Jan. PMID 19901552.
Frameshift mutations of autophagy-related genes ATG2B, ATG5, ATG9B and ATG12 in gastric and colorectal cancers with microsatellite instability. Kang MR, et al. J Pathol, 2009 Apr. PMID 19197948.
Regulation of autophagy by the p300 acetyltransferase. Lee IH, et al. J Biol Chem, 2009 Mar 6. PMID 19124466.
Mitochondrial DNA deletions and chloramphenicol treatment stimulate the autophagic transcript ATG12. Prigione A, et al. Autophagy, 2007 Jul-Aug. PMID 17457038.
Large-scale mapping of human protein-protein interactions by mass spectrometry. Ewing RM, et al. Mol Syst Biol, 2007. PMID 17353931.

Images



Anti-APG12 at 1:4000 dilution + ATG12 recombinant protein Lysates/proteins at 20ng per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 26 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Activation of autophagy in mesenchymal stem cells provides tumor stromal support.