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

ATG7 Antibody (Ascites)

Unpurified Mouse Monoclonal Antibody (Mab)
Catalog # AM1813a

Product Information

Application	WB, E
Primary Accession	O95352
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b, Igk
Clone Names	29CT10.3.12
Calculated MW	77960

Additional Information

Gene ID	10533
Other Names	Ubiquitin-like modifier-activating enzyme ATG7, ATG12-activating enzyme E1 ATG7, Autophagy-related protein 7, APG7-like, hAGP7, Ubiquitin-activating enzyme E1-like protein, ATG7, APG7L
Target/Specificity	Purified His-tagged APG7 protein was used to produced this monoclonal antibody.
Dilution	WB~~1:500~2000 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
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	ATG7 Antibody (Ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATG7 (HGNC:16935)
Synonyms	APG7L
Function	E1-like activating enzyme involved in the 2 ubiquitin-like systems required for cytoplasm to vacuole transport (Cvt) and autophagy. Activates ATG12 for its conjugation with ATG5 as well as the ATG8 family proteins for their conjugation with phosphatidylethanolamine. Both systems are needed for the

	ATG8 association to Cvt vesicles and autophagosomes membranes. Required for autophagic death induced by caspase-8 inhibition. Facilitates LC3-I lipidation with phosphatidylethanolamine to form LC3-II which is found on autophagosomal membranes (PubMed:34161705). Required for mitophagy which contributes to regulate mitochondrial quantity and quality by eliminating the mitochondria to a basal level to fulfill cellular energy requirements and preventing excess ROS production. Modulates p53/TP53 activity to regulate cell cycle and survival during metabolic stress. Also plays a key role in the maintenance of axonal homeostasis, the prevention of axonal degeneration, the maintenance of hematopoietic stem cells, the formation of Paneth cell granules, as well as in adipose differentiation. Plays a role in regulating the liver clock and glucose metabolism by mediating the autophagic degradation of CRY1 (clock repressor) in a time-dependent manner (By similarity).
Cellular Location	Cytoplasm. Preautophagosomal structure. Note=Also localizes to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme
Tissue Location	Widely expressed, especially in kidney, liver, lymph nodes and bone marrow.

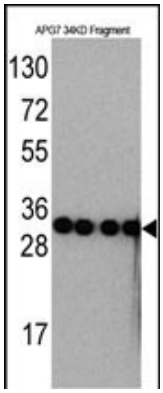
Background

This gene was identified based on homology to Pichia pastoris GSA7 and Saccharomyces cerevisiae APG7. In the yeast, the protein appears to be required for fusion of peroxisomal and vacuolar membranes. The protein shows homology to the ATP-binding and catalytic sites of the E1 ubiquitin activating enzymes.

References

Age at onset in Huntington's disease is modified by the autophagy pathway: implication of the V471A polymorphism in Atg7. Metzger S, et al. Hum Genet, 2010 Oct. PMID 20697744.
Cytosolic FoxO1 is essential for the induction of autophagy and tumour suppressor activity. Zhao Y, et al. Nat Cell Biol, 2010 Jul. PMID 20543840.
Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. Mol Med, 2010 Jul-Aug. PMID 20379614.
Atg7 deficiency increases resistance of MCF-7 human breast cancer cells to photodynamic therapy. Xue LY, et al. Autophagy, 2010 Feb. PMID 20083906.
Proteasome inhibitors activate autophagy as a cytoprotective response in human prostate cancer cells. Zhu K, et al. Oncogene, 2010 Jan 21. PMID 19881538.

Images



Western blot analysis of anti-APG7 Monoclonal Antibody (Cat.#AM1813a) by Recombinant APG7 protein (Fragment 34KD). APG7 protein (Fragment 34KD)(arrow) was detected using the ascites Mab.

Citations

- Eradication of intracellular Salmonella enterica serovar Typhimurium with a small-molecule, host cell-directed agent.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.