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ATG7 Antibody

Rabbit mAb
Catalog # AP90661

Product Information

Application	WB, IHC, IF, FC, ICC, IP, IHF
Primary Accession	O95352
Reactivity	Human
Clonality	Monoclonal
Other Names	ATG7; APG7-LIKE; APG7L; DKFZp434N0735; GSA7;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	77960

Additional Information

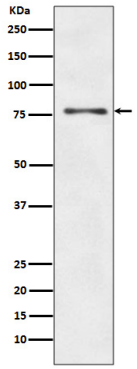
Dilution	WB 1:10000~1:50000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:20 FC 1:20
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human ATG7
Description	The molecular machinery of autophagy was largely discovered in yeast and referred to as autophagy-related (Atg) genes. Formation of the autophagosome involves a ubiquitin-like conjugation system in which Atg12 is covalently bound to Atg5 and targeted to autophagosome vesicles. This conjugation reaction is mediated by the ubiquitin E1-like enzyme Atg7 and the E2-like enzyme Atg10.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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.

Images



Western blot analysis of ATG7 expression in HepG2 cell lysate.

Image not found : 202311/AP90661-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human colon, using ATG7 Antibody.