

Anti-Apg7 Antibody
Catalog # ABO11571**Specification****Anti-Apg7 Antibody - Product Information**

Application	WB
Primary Accession	O95352
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Ubiquitin-like modifier-activating enzyme ATG7(ATG7) detection. Tested with WB in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-Apg7 Antibody - 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

Calculated MW

77960 MW KDa

Application Details

Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

Cytoplasm . Preautophagosomal structure . Localizes also to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme. .

Tissue Specificity

Widely expressed, especially in kidney, liver, lymph nodes and bone marrow. .

Protein Name

Ubiquitin-like modifier-activating enzyme ATG7

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human Apg7(652-669aa KVLDDQYEREGFNFLAKVF), different from the related mouse sequence by one amino acid, and from

the related rat sequence by two amino acids.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Anti-Apg7 Antibody - 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=Localizes also 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.

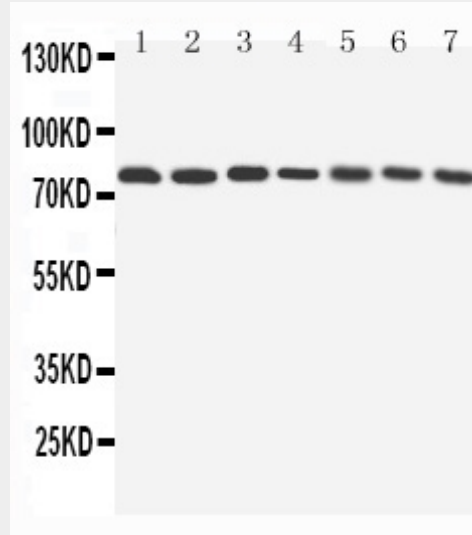
Anti-Apg7 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-Apg7 Antibody - Images



Anti-Apg7 antibody, ABO11571, All Western blotting
All lanes: Anti-ATG7(ABO11571) at 0.5ug/ml
Lane 1: Rat Liver Tissue Lysate at 40ug
Lane 2: Rat Kidney Tissue Lysate at 40ug
Lane 3: Human Placenta Tissue Lysate at 40ug
Lane 4: HELA Whole Cell Lysate at 40ug
Lane 5: JURKAT Whole Cell Lysate at 40ug
Lane 6: 293T Whole Cell Lysate at 40ug
Lane 7: HEPG2 Whole Cell Lysate at 40ug
Predicted bind size: 78KD
Observed bind size: 78KD

Anti-Apg7 Antibody - Background

Autophagy-related protein 7 is a protein that in humans is encoded by the ATG7 gene. It is mapped to 3p25.3. 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 also shows homology to the ATP-binding and catalytic sites of the E1 ubiquitin activating enzymes. ATG7 is essential for the Apg12 conjugation system that mediates membrane fusion in autophagy. It is found that when nutrients are limited, ATG7 can regulate p53-dependent cell cycle and cell death pathways.