

# Anti-Atg7 Antibody

## ER1802-18



<b>Product Type:</b>	Rabbit polyclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse
<b>Applications:</b>	IF-Cell, IHC-P, FC
<b>Molecular Wt:</b>	78 kDa

**Description:** 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 autophagosomal 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 .

**Immunogen:** Synthetic peptide within Human Atg7 aa 541-590 / 703.

**Positive control:** A431, A549, HUVEC, human breast tissue, human placenta tissue, mouse kidney tissue, Jurkat.

**Subcellular location:** Cytoplasm.

**Database links:** SwissProt: O95352 Human | Q9D906 Mouse

**Recommended Dilutions:**

<b>IF-Cell</b>	1:500-1:2,000
<b>IHC-P</b>	1:200-1:1,000
<b>FC</b>	1:50-1:100

**Storage Buffer:** 1\*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

**Purity:** Immunogen affinity purified.

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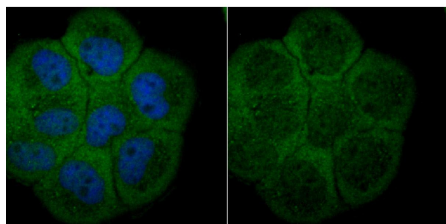
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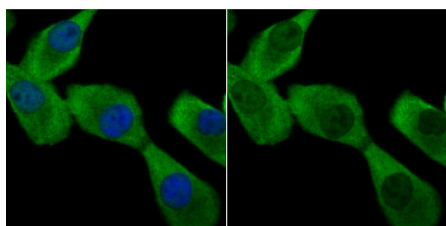
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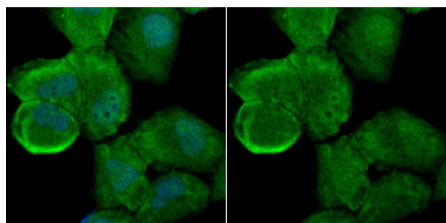
## Images



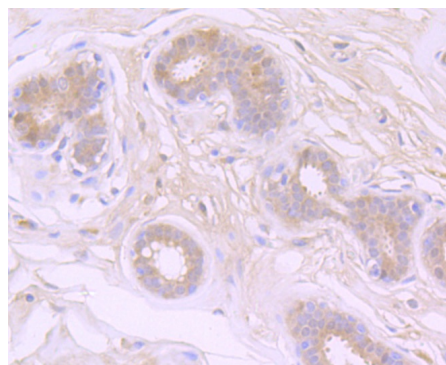
**Fig1:** ICC staining Atg7 in A431 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.



**Fig2:** ICC staining Atg7 in A549 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.



**Fig3:** ICC staining Atg7 in HUVEC cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.



**Fig4:** Immunohistochemical analysis of paraffin-embedded human breast tissue using anti-Atg7 antibody. Counter stained with hematoxylin.

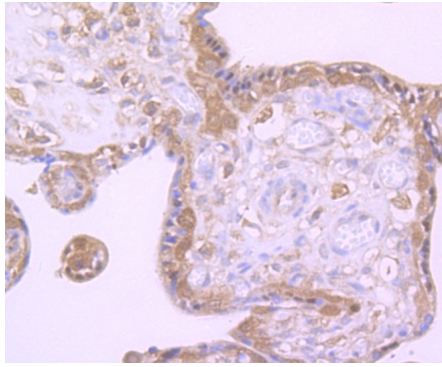
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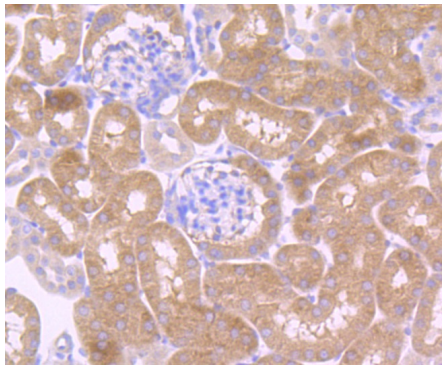
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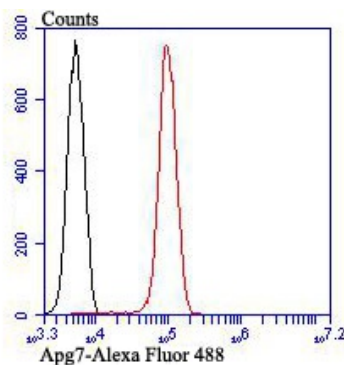
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**Fig5:** Immunohistochemical analysis of paraffin-embedded human placenta tissue using anti-Atg7 antibody. Counter stained with hematoxylin.



**Fig6:** Immunohistochemical analysis of paraffin-embedded mouse kidney tissue using anti-Atg7 antibody. Counter stained with hematoxylin.



**Fig7:** Flow cytometric analysis of Jurkat cells with Atg7 antibody at 1/100 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black).

**Note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

### Background References

1. Tanida I et al. The human homolog of *Saccharomyces cerevisiae* Apg7p is a Protein-activating enzyme for multiple substrates including human Apg12p, GATE-16, GABARAP, and MAP-LC3. *J Biol Chem* 276:1701-1706 (2001).
2. Sou Y S et al. Phosphatidylserine in addition to phosphatidylethanolamine is an in vitro target of the mammalian Atg8 modifiers, LC3, GABARAP, and GATE-16. *J Biol Chem* 281:3017-3024 (2006).

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