

ATG7 (B-9): sc-376212

BACKGROUND

In yeast, autophagy is an essential process for survival during nutrient starvation and cell differentiation. The process of autophagy is characterized as a non-selective degradation of cytoplasmic proteins into membrane structures called autophagosomes, and it is dependent on several proteins, including the autophagy proteins APG5 and APG7. Yeast Apg7 and the human homolog, APG7, share similarities with the ubiquitin-activating enzyme E1 in *Saccharomyces cerevisiae*, and are likewise responsible for enzymatically activating the autophagy conjugation system. Apg5 and the human homolog, APG5 (also designated apoptosis specific protein or APS), function as substrates for the autophagy protein APG12. These proteins are covalently bonded together to form APG12/APG5 conjugates, which are required for the progression of autophagy.

CHROMOSOMAL LOCATION

Genetic locus: ATG7 (human) mapping to 3p25.3; Atg7 (mouse) mapping to 6 E3.

SOURCE

ATG7 (B-9) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of ATG7 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ATG7 (B-9) is available conjugated to agarose (sc-376212 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376212 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376212 PE), fluorescein (sc-376212 FITC), Alexa Fluor® 488 (sc-376212 AF488), Alexa Fluor® 546 (sc-376212 AF546), Alexa Fluor® 594 (sc-376212 AF594) or Alexa Fluor® 647 (sc-376212 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376212 AF680) or Alexa Fluor® 790 (sc-376212 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ATG7 (B-9) is recommended for detection of ATG7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ATG7 siRNA (h): sc-41447, ATG7 siRNA (m): sc-41448, ATG7 shRNA Plasmid (h): sc-41447-SH, ATG7 shRNA Plasmid (m): sc-41448-SH, ATG7 shRNA (h) Lentiviral Particles: sc-41447-V and ATG7 shRNA (m) Lentiviral Particles: sc-41448-V.

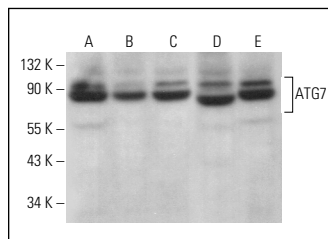
Molecular Weight of ATG7: 71 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or Caki-1 cell lysate: sc-2224.

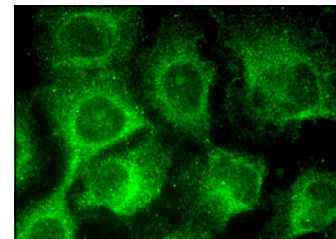
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ATG7 (B-9): sc-376212. Western blot analysis of ATG7 expression in Caki-1 (A), Jurkat (B), MDA-MB-435S (C), NIH/3T3 (D) and HeLa (E) whole cell lysates.



ATG7 (B-9): sc-376212. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Chen, K.D., et al. 2014. Interconnections between autophagy and the coagulation cascade in hepatocellular carcinoma. *Cell Death Dis.* 5: e1244.
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- Huang, K.T., et al. 2017. Factor VII-induced microRNA-135a inhibits autophagy and is associated with poor prognosis in hepatocellular carcinoma. *Mol. Ther. Nucleic Acids* 9: 274-283.
- Zhou, J., et al. 2018. Hypoxia-inducible factor-1 α -dependent autophagy plays a role in glycolysis switch in mouse granulosa cells. *Biol. Reprod.* 99: 308-318.
- Sung, H.K., et al. 2019. Iron induces Insulin resistance in cardiomyocytes via regulation of oxidative stress. *Sci. Rep.* 9: 4668.
- Bacci, M., et al. 2019. Reprogramming of amino acid transporters to support aspartate and glutamate dependency sustains endocrine resistance in breast cancer. *Cell Rep.* 28: 104-118.e8.
- Li, C., et al. 2019. Autophagy regulates the therapeutic potential of adipose-derived stem cells in LPS-induced pulmonary microvascular barrier damage. *Cell Death Dis.* 10: 804.
- Zheng, Y., et al. 2019. Autophagy and apoptosis of porcine ovarian granulosa cells during follicular development. *Animals* 9: 1111.
- Fan, X., et al. 2020. Critical roles of conventional dendritic cells in autoimmune hepatitis via autophagy regulation. *Cell Death Dis.* 11: 23.
- Potocnjak, I., et al. 2020. Antitumor activity of luteolin in human colon cancer SW620 cells is mediated by the ERK/FOXO3a signaling pathway. *Toxicol. In Vitro* 66: 104852.

RESEARCH USE

For research use only, not for use in diagnostic procedures.