SANTA CRUZ BIOTECHNOLOGY, INC.

APG7 (H-300): sc-33211

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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 stuctures 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

APG7 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of APG7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

APG7 (H-300) is recommended for detection of APG7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). APG7 (H-300) is also recommended for detection of APG7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for APG7 siRNA (h): sc-41447, APG7 siRNA (m): sc-41448, APG7 shRNA Plasmid (h): sc-41447-SH, APG7 shRNA Plasmid (m): sc-41448-SH, APG7 shRNA (h) Lentiviral Particles: sc-41447-V and APG7 shRNA (m) Lentiviral Particles: sc-41448-V.

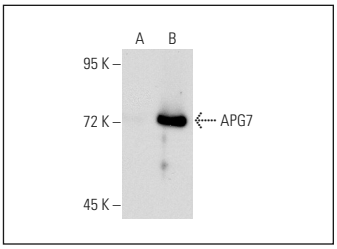
Molecular Weight of APG7: 71 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HAPG7 (m): 293T Lysate: sc-118472 or Jurkat whole cell lysate: sc-2204.

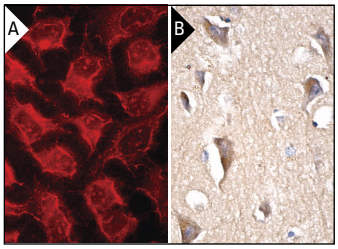
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



APG7 (H-300): sc-33211. Western blot analysis of APG7 expression in non-transfected: sc-117752 (**A**) and mouse APG7 transfected: sc-118472 (**B**) 293T whole cell lysates.



APG7 (H-300): sc-33211. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing cytoplasmic staining of neuronal cells (**B**).

SELECT PRODUCT CITATIONS

1. Bristol, M.L., et al. 2012. Dual functions of autophagy in the response of breast tumor cells to radiation: cytoprotective autophagy with radiation alone and cytotoxic autophagy in radiosensitization by vitamin D_3. Autophagy 8: 739-753.
2. Rosenfeldt, M.T., et al. 2012. Analysis of macroautophagy by immunohistochemistry. Autophagy 8: 963-969.
3. Lin, T.K., et al. 2012. The effect of the red wine polyphenol resveratrol on a rat model of biliary obstructed cholestasis: involvement of anti-apoptotic signalling, mitochondrial biogenesis and the induction of autophagy. Apoptosis 17: 871-879.
4. Zhao, D., et al. 2014. Autophagy prevents doxorubicin-induced apoptosis in osteosarcoma. Mol. Med. Rep. 9: 1975-1981.