

# APG7 (N-20): sc-8668

## 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.

## REFERENCES

1. Kametaka, S., et al. 1996. Structural and functional analyses of APG5, a gene involved in autophagy in yeast. *Gene* 178: 139-143.
2. Mizushima, N., et al. 1998. A protein conjugation system essential for autophagy. *Nature* 395: 395-398.
3. Hammond, E.M., et al. 1998. Homology between a human apoptosis specific protein and the product of APG5, a gene involved in autophagy in yeast. *FEBS Lett.* 425: 391-395.
4. Klionsky, D.J. 1998. Nonclassical protein sorting to the yeast vacuole. *J. Biol. Chem.* 273: 10807-10810.

## CHROMOSOMAL LOCATION

Genetic locus: APG7L (human) mapping to 3p25.3; Apg7l (mouse) mapping to 6 E3.

## SOURCE

APG7 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-8668 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

APG7 (N-20) 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

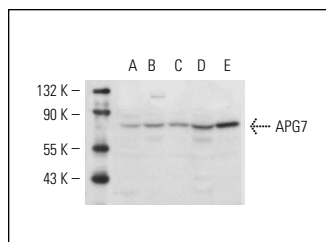
APG7 (N-20) is also recommended for detection of APG7 in additional species, including equine, canine, bovine and porcine.

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.

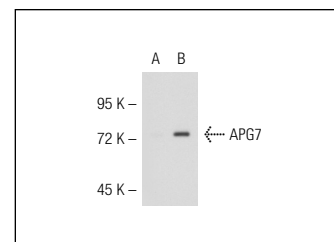
Molecular Weight of APG7: 71 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, HeLa + serum-starved cell lysate: sc-24693 or APG7 (m): 293T Lysate: sc-118472.

## DATA



APG7 (N-20): sc-8668. Western blot analysis of APG7 expression in HeLa (A), serum-starved HeLa (B), Jurkat (C), PMA-treated Jurkat (D) and Caki-1 (E) whole cell lysates.



APG7 (N-20): sc-8668. Western blot analysis of APG7 expression in non-transfected: sc-117752 (A) and mouse APG7 transfected: sc-118472 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Tanida, I., et al. 2010. Measurement of autophagy in cells and tissues. *Methods Mol. Biol.* 648: 193-214.
2. Huang, H.L., et al. 2011. Lapatinib induces autophagy, apoptosis and megakaryocytic differentiation in chronic myelogenous leukemia K562 cells. *PLoS ONE* 6: e29014.



Try **APG7 (B-9): sc-376212**, our highly recommended monoclonal alternative to APG7 (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **APG7 (B-9): sc-376212**.