SANTA CRUZ BIOTECHNOLOGY, INC.

APG5 (N-18): sc-8666

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: APG5 (human) mapping to 6q21; Apg5 (mouse) mapping to 10 B2.

SOURCE

APG5 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of APG5 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-8666 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

APG5 (N-18) is recommended for detection of APG5 long isoform of human origin and APG5 of mouse and rat 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).

APG5 (N-18) is also recommended for detection of APG5 short isoform in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for APG5 siRNA (h): sc-41445, APG5 siRNA (m): sc-41446, APG5 shRNA Plasmid (h): sc-41445-SH, APG5 shRNA Plasmid (m): sc-41446-SH, APG5 shRNA (h) Lentiviral Particles: sc-41445-V and APG5 shRNA (m) Lentiviral Particles: sc-41446-V.

Molecular Weight of human APG5 long/short isoforms: 32/23 kDa.

Molecular Weight of mouse and rat APG5: 32 kDa.

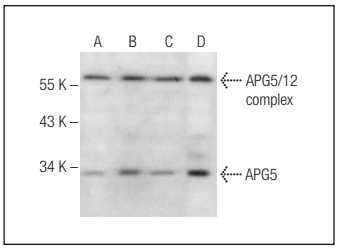
Molecular Weight of conjugate APG5-APG12: 50 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, HEL 92.1.7 cell lysate: sc-2270 or Raji whole cell lysate: sc-364236.

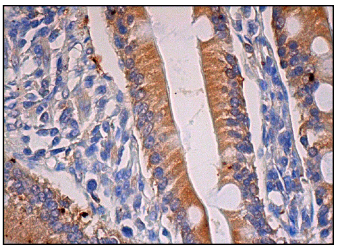
STORAGE

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

DATA



APG5 (N-18): sc-8666. Western blot analysis of APG5 expression in SH-SY5Y (**A**), HEL 92.1.7 (**B**), Raji (**C**) and CCRF-CEM (**D**) whole cell lysates.



APG5 (N-18): sc-8666. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITTIONS

1. Djavaheri-Mergny, M., et al. 2006. NFκB activation represses tumor necrosis factor-α-induced autophagy. J. Biol. Chem. 281: 30373-30382.
2. Chang, C.P., et al. 2007. Concanavalin A induces autophagy in hepatoma cells and has a therapeutic effect in a murine *in situ* hepatoma model. Hepatology 45: 286-296.
3. Chin, T.Y., et al. 2010. Inhibition of the mammalian target of rapamycin promotes cyclic AMP-induced differentiation of NG108-15 cells. Autophagy 6: 1139-1156.
4. Blanchet, F.P., et al. 2010. Human immunodeficiency virus-1 inhibition of immunoamphisomes in dendritic cells impairs early innate and adaptive immune responses. Immunity 32: 654-669.
5. Sun, Y., et al. 2012. Inhibition of autophagy ameliorates acute lung injury caused by avian influenza A H5N1 infection. Sci. Signal. 5: ra16.
6. Botta, G., et al. 2012. Inhibition of autophagy enhances the effects of E1A-defective oncolytic adenovirus dl922-947 against glioma cells *in vitro* and *in vivo*. Hum. Gene Ther. 23: 623-634.
7. Gravina, G.L., et al. 2015. Dual PI3K/mTOR inhibitor, XL765 (SAR245409), shows superior effects to sole PI3K [XL147 (SAR245408)] or mTOR [rapamycin] inhibition in prostate cancer cell models. Tumour Biol. E-published.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.