

APG5 (m): 293T Lysate: sc-118471

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 ATG5 (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, ATG5, also designated APG5, apoptosis-specific protein or APS, function as substrates for the autophagy protein Apg12. These proteins are covalently bonded together to form Apg12/ATG5 conjugates, which are required for the progression of autophagy.

REFERENCES

1. Kametaka, S., Matsuura, A., Wada, Y. and Ohsumi, Y. 1996. Structural and functional analyses of APG5, a gene involved in autophagy in yeast. *Gene* 178: 139-143.
2. Klionsky, D.J. 1998. Nonclassical protein sorting to the yeast vacuole. *J. Biol. Chem.* 273: 10807-10810.
3. Mizushima, N., Sugita, H., Yoshimori, T. and Ohsumi, Y. 1998. A new protein conjugation system in human. The counterpart of the yeast APG12p conjugation system essential for autophagy. *J. Biol. Chem.* 273: 33889-33892.
4. Mizushima, N., Noda, T., Yoshimori, T., Tanaka, Y., Ishii, T., George, M.D., Klionsky, D.J., Ohsumi, M. and Ohsumi, Y. 1998. A protein conjugation system essential for autophagy. *Nature* 395: 395-398.
5. Hammond, E.M., Brunet, C.L., Johnson, G.D., Parkhill, J., Milner, A.E., Brady, G., Gregory, C.D. and Grand, R.J. 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.

CHROMOSOMAL LOCATION

Genetic locus: Apg5l (mouse) mapping to 10 B2.

PRODUCT

APG5 (m): 293T Lysate represents a lysate of mouse APG5 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

APG5 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive APG5 antibodies. Recommended use: 10-20 µl per lane.

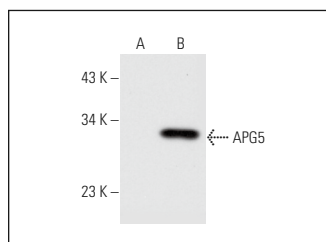
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

APG5 (C-1): sc-133158 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse APG5 expression in APG5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

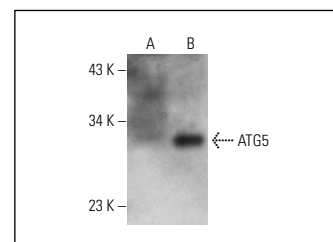
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



APG5 (C-1): sc-133158. Western blot analysis of APG5 expression in non-transfected: sc-117752 (A) and mouse APG5 transfected: sc-118471 (B) 293T whole cell lysates.



ATG5 (E-9): sc-515347. Western blot analysis of ATG5 expression in non-transfected: sc-117752 (A) and mouse ATG5 transfected: sc-118471 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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