SANTA CRUZ BIOTECHNOLOGY, INC.

Aut7 (yN-18): sc-15639

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Autophagy, an intracellular degradation system, is a process in which cytoplasmic components are enclosed in autophagosomes and delivered to lysosomes. Autophagy in yeast requires a protein conjugation system consisting of Apg12 covalently bound at the carboxy-terminal glycine to Lysine 149 of Apg5. Apg7 is a protein-activating enzyme that is similar to E1 family ubiquitin-activating enzymes. Apg7 is required for the Apg12-Apg5 conjugation to occur and is essential for normal cytoplasm-to-vacuole targeting, autophagy and peroxisome degradation pathways. Aut7 expression is induced by nitrogen starvation and is required for cytoplasm to vacuole targeting (Cvt) and autophagy.

REFERENCES

1. Scott, S.V., Hefner-Gravink, A., Morano, K.A., Noda, T., Ohsumi, Y. and Klionsky, D.J. 1996. Cytoplasm-to-vacuole targeting and autophagy employ the same machinery to deliver proteins to the yeast vacuole. Proc. Natl. Acad. Sci. USA 93: 12304-12308.
2. Noda, T. and Ohsumi, Y. 1998. Tor, a phosphatidylinositol kinase homologue, controls autophagy in yeast. J. Biol. Chem. 273: 3963-3966.
3. 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.
4. Tanida, I., Mizushima, N., Kiyooka, M., Ohsumi, M., Ueno, T., Ohsumi, Y. and Kominami, E. 1999. Apg7p/Cvt2p: A novel protein-activating enzyme essential for autophagy. Mol. Biol. Cell 10: 1367-1379.
5. Mizushima, N., Noda, T. and Ohsumi, Y. 1999. Apg16p is required for the function of the Apg12p-Apg5p conjugate in the yeast autophagy pathway. EMBO J. 18: 3888-3896.
6. Huang, W.P., Scott, S.V., Kim, J. and Klionsky, D.J. 2000. The itinerary of a vesicle component, Aut7p/Cvt5p, terminates in the yeast vacuole via the autophagy/Cvt pathways. J. Biol. Chem. 275: 5845-5851.

SOURCE

Aut7 (yN-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Aut7 of *Saccharomyces cerevisiae* 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-15639 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.

APPLICATIONS

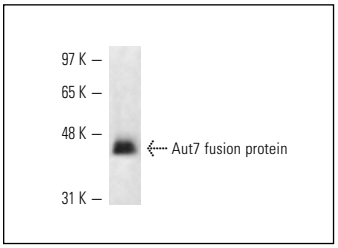
Aut7 (yN-18) is recommended for detection of Aut7 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Aut7: 14 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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).

DATA



Aut7 (yN-18): sc-15639. Western blot analysis of yeast recombinant Aut7 fusion protein.

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **Aut7 (G-10): sc-373963** or **Aut7 (B-11): sc-374016**, our highly recommended monoclonal alternatives to Aut7 (yN-18).