

Aut7 (G-10): sc-373963

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 and autophagy.

REFERENCES

1. Scott, S.V., et al. 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. Mizushima, N., et al. 1998. A protein conjugation system essential for autophagy. *Nature* 395: 395-398.
3. Noda, T. and Ohsumi, Y. 1998. Tor, a phosphatidylinositol kinase homologue, controls autophagy in yeast. *J. Biol. Chem.* 273: 3963-3966.
4. Tanida, I., et al. 1999. Apg7p/Cvt2p: A novel protein-activating enzyme essential for autophagy. *Mol. Biol. Cell* 10: 1367-1379.
5. Mizushima, N., et al. 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., et al. 2000. The itinerary of a vesicle component, Apg7p/Cvt5p, terminates in the yeast vacuole via the autophagy/Cvt pathways. *J. Biol. Chem.* 275: 5845-5851.

SOURCE

Aut7 (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 9-37 near the N-terminus of Aut7 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Aut7 (G-10) is available conjugated to agarose (sc-373963 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373963 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373963 PE), fluorescein (sc-373963 FITC), Alexa Fluor® 488 (sc-373963 AF488), Alexa Fluor® 546 (sc-373963 AF546), Alexa Fluor® 594 (sc-373963 AF594) or Alexa Fluor® 647 (sc-373963 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373963 AF680) or Alexa Fluor® 790 (sc-373963 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373963 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

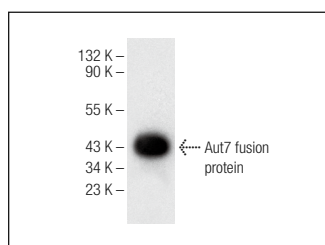
Aut7 (G-10) is recommended for detection of Aut7 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Aut7: 14 kDa.

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Aut7 (G-10): sc-373963. Western blot analysis of yeast recombinant Aut7 fusion protein.

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 for detailed protocols and support products.