

# 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, Aut7p/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 IgG<sub>1</sub> 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

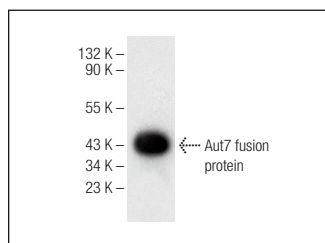
Aut7 (G-10) is recommended for detection of Aut7 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range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

Molecular Weight of Aut7: 14 kDa.

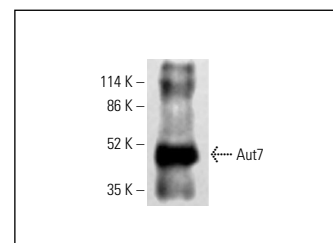
## RECOMMENDED SUPPORT REAGENTS

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.



Aut7 (G-10) HRP: sc-373963 HRP. Direct 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](http://www.scbt.com) for detailed protocols and support products.