

aminopeptidase-I (yH-16): sc-26740

BACKGROUND

Autophagy is a membrane trafficking mechanism that delivers cytoplasmic cargo to the vacuole/lysosome for degradation and recycling. The proper functioning of eukaryotic organelles is largely dependent on the specific packaging of cargo proteins within transient delivery vesicles. The cytoplasm to vacuole targeting (Cvt) pathway is an autophagy-related trafficking pathway whose cargo proteins, aminopeptidase I and α -mannosidase, are selectively transported from the cytoplasm to the lysosome-like vacuole in yeast. In the budding yeast *Saccharomyces cerevisiae*, the vacuolar hydrolase aminopeptidase I (API, Ape1) is synthesized in the cytoplasm as a precursor (pAPI) and forms a Cvt complex. The complex is engulfed by the autophagosome under starvation conditions. Constitutively expressed members of the yeast cytoplasmic Ssa subfamily, Ssa1 and Ssa2, display overlapping functions in the transport of aminopeptidase I.

REFERENCES

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2. Leber, R., Silles, E., Sandoval, I.V. and Mazon, M.J. 2001. Yol082p, a novel CVT protein involved in the selective targeting of aminopeptidase I to the yeast vacuole. *J. Biol. Chem.* 276: 29210-29217.
3. Huang, W.P. and Klionsky, D.J. 2002. Autophagy in yeast: a review of the molecular machinery. *Cell Struct. Funct.* 27: 409-420.
4. Thumm, M. 2002. Hitchhikers guide to the vacuole-mechanisms of cargo sequestration in the Cvt and autophagic pathways. *Mol. Cell* 10: 1257-1258.
5. Suzuki, K., Kamada, Y. and Ohsumi, Y. 2002. Studies of cargo delivery to the vacuole mediated by autophagosomes in *Saccharomyces cerevisiae*. *Dev. Cell* 3: 815-824.
6. Shintani, T., Huang, W.P., Stromhaug, P.E. and Klionsky, D.J. 2002. Mechanism of cargo selection in the cytoplasm to vacuole targeting pathway. *Dev. Cell* 3: 825-837.
7. Abeliovich, H., Zhang, C., Dunn, W.A., Jr., Shokat, K.M. and Klionsky, D.J. 2004. Chemical genetic analysis of Apg1 reveals a non-kinase role in the induction of autophagy. *Mol. Biol. Cell* 14: 477-490.

SOURCE

aminopeptidase-I (yH-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of aminopeptidase-I of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26740 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

aminopeptidase-I (yH-16) is recommended for detection of aminopeptidase-I of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

SELECT PRODUCT CITATIONS

1. Yeh, Y.Y., Shah, K.H., Chou, C.C., Hsiao, H.H., Wrasman, K.M., Stephan, J.S., Stamatakis, D., Khoo, K.H. and Herman, P.K. 2011. The identification and analysis of phosphorylation sites on the Atg1 protein kinase. *Autophagy* 7: 716-726.
2. Dziedzic, S.A. and Caplan, A.B. 2012. Autophagy proteins play cytoprotective and cytotoxic roles in leucine starvation-induced cell death in *Saccharomyces cerevisiae*. *Autophagy* 8: 731-738.

STORAGE

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

PROTOCOLS

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