



## Vps34 (yN-11): sc-83477

### BACKGROUND

Vacuolar sorting proteins (Vps) are required for proper trafficking of endocytic and biosynthetic proteins to the vacuole and play an important role in the budding process of cells. Vps34 (vacuolar protein sorting-associated protein 34), also known as VPT29, VPL7, PEP15 or END12, is a 875 amino acid peripheral membrane protein that localizes to the Golgi apparatus. Belonging to the PI3/PI4-kinase family, Vps34 is involved in endosome-to-Golgi retrograde transport as part of the Vps34 PI3-kinase complex II. The Vps34 PI3-kinase complex II is required for the endosome-to-Golgi retrieval of PEP1 and KEX2, and the recruitment of Vps5 and Vps7, two components of the retromer complex, to endosomal membranes. It has been suggested that Vps34 may also be involved in ethanol tolerance and cell wall integrity.

### REFERENCES

- Gillooly, D.J., Morrow, I.C., Lindsay, M., Gould, R., Bryant, N.J., Gaullier, J.M., Parton, R.G. and Stenmark, H. 2000. Localization of phosphatidylinositol 3-phosphate in yeast and mammalian cells. *EMBO J.* 19: 4577-4588.
- Kihara, A., Noda, T., Ishihara, N. and Ohsumi, Y. 2001. Two distinct Vps34 phosphatidylinositol 3-kinase complexes function in autophagy and carboxypeptidase Y sorting in *Saccharomyces cerevisiae*. *J. Cell Biol.* 152: 519-530.
- Burda, P., Padilla, S.M., Sarkar, S. and Emr, S.D. 2002. Retromer function in endosome-to-Golgi retrograde transport is regulated by the yeast Vps34 PtdIns 3-kinase. *J. Cell. Sci.* 115: 3889-3900.
- Rog, O., Smolikov, S., Krauskopf, A. and Kupiec, M. 2005. The yeast Vps genes affect telomere length regulation. *Curr. Genet.* 47: 18-28.
- Slessareva, J.E., Routt, S.M., Temple, B., Bankaitis, V.A. and Dohlman, H.G. 2006. Activation of the phosphatidylinositol 3-kinase Vps34 by a G protein  $\alpha$  subunit at the endosome. *Cell.* 126: 191-203.
- Hall, B.S., Gabernet-Castello, C., Voak, A., Goulding, D., Natesan, S.K. and Field, M.C. 2006. TbVps34, the trypanosome orthologue of Vps34, is required for Golgi complex segregation. *J. Biol. Chem.* 281: 27600-27612.
- Jiang, B.H. and Liu, L.Z. 2008. PI3K/PTEN signaling in tumorigenesis and angiogenesis. *Biochim. Biophys. Acta.* 1784: 150-158.
- Obara, K., Noda, T., Niimi, K. and Ohsumi, Y. 2008. Transport of phosphatidylinositol 3-phosphate into the vacuole via autophagic membranes in *Saccharomyces cerevisiae*. *Genes Cells.* 13: 537-547.
- Itakura, E. and Mizushima, N. 2009. Atg14 and UVRAG: mutually exclusive subunits of mammalian Beclin 1-PI3K complexes. *Autophagy.* 5: 534-536.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

### SOURCE

Vps34 (yN-11) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Vps34 of yeast origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-83477 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Vps34 (yN-11) is recommended for detection of Vps34 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Vps34: 100 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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### RESEARCH USE

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