SANTA CRUZ BIOTECHNOLOGY, INC.

Lcb4 (yC-13): sc-27725

BACKGROUND

Sphingolipid long-chain base phosphates regulate cell proliferation, movement and differentiation in higher eukaryotes. Lcb4 is a sphingoid long-chain base kinase responsible for synthesis of long-chain base phosphates. Lcb4 kinase activity is detectable in the membrane fraction of yeast cells. Lcb4 can use phytosphingosine, dihydrosphingosine, or sphingosine as a substrate. Lcb4 localizes to the trans-Golgi network and late endosomes and cycles between these compartments. Lcb4 faces the cytosol and is probably bound to membranes by protein-protein interactions.

REFERENCES

1. Nagiec, M.M., et al. 1998. The LCB4 (YOR171c) and LCB5 (YLR260w) genes of Saccharomyces encode sphingoid long chain base kinases. J. Biol. Chem. 273: 19437-19442.
2. Kim, S., et al. 2000. Accumulation of phosphorylated sphingoid long chain bases results in cell growth inhibition in *Saccharomyces cerevisiae*. Genetics 156: 1519-1529.
3. Zhang, X., et al. 2001. Elevation of endogenous sphingolipid long-chain base phosphates kills *Saccharomyces cerevisiae* cells. Curr. Genet 40: 221-233.
4. Birchwood, C.J., et al. 2001. Calcium influx and signaling in yeast stimulated by intracellular sphingosine 1-phosphate accumulation. J. Biol. Chem. 276: 11712-11718.
5. Jenkins, G.M., et al. 2001. Role for de novo sphingoid base biosynthesis in the heat-induced transient cell cycle arrest of *Saccharomyces cerevisiae*. J. Biol. Chem. 276: 8574-8581.
6. Hait, N.C., et al. 2002. Lcb4p sphingoid base kinase localizes to the Golgi and late endosomes. FEBS Letts. 532: 97-102.
7. Funato, K., et al. 2003. Lcb4p is a key regulator of ceramide synthesis from exogenous long chain sphingoid base in *Saccharomyces cerevisiae*. J. Biol. Chem. 278: 7325-7334.
8. Welsch, C.A., et al. 2004. Genetic, biochemical, and transcriptional responses of *Saccharomyces cerevisiae* to the novel immunomodulator FTY720 largely mimic those of the natural sphingolipid phytosphingosine. J. Biol. Chem. 279: 36720-36731.

SOURCE

Lcb4 (yC-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Lcb4 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-27725 P, (100 µg 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

Lcb4 (yC-13) is recommended for detection of Lcb4 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.

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.