SANTA CRUZ BIOTECHNOLOGY, INC.

Trk1 (yC-16): sc-15563

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Trk1 is a 180-kilodalton plasma membrane protein in *Saccharomyces cerevisiae* required for high affinity transport (uptake) of potassium. The gene that encodes this putative potassium transporter (TRK1) was cloned by its ability to relieve the potassium transport defect in Trk1 cells. Trk1 is nonessential and maps to a locus unlinked to PMA1, the gene that encodes the plasma membrane ATPase. Trk1 is nonessential due to the existence of a functionally independent low affinity transporter. Cells containing a deletion of Trk1 retain only low affinity uptake of this ion and consequently lose the ability to grow in media containing low levels of potassium. Additionally, the capacity to transport potassium and to discriminate between the different alkali cations affects sodium tolerance. Mutants with a defective capacity to transport potassium are more sensitive to high concentrations of sodium because they accumulate more sodium and less potassium than wild-type cells which show high discrimination for potassium and sodium.

REFERENCES

1. Gaber, R.F., Styles, C.A,. and Fink, G.R. 1988. TRK1 encodes a plasma membrane protein required for high-affinity potassium transport in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 8: 2848-2859.
2. Ko, C.H., Buckley, A.M., and Gaber, R.F. 1990. TRK2 is required for low affinity K^+ transport in *Saccharomyces cerevisiae*. Genetics 125: 305-312.
3. Vidal, M., Buckley, A.M., Hilger, F., and Gaber, R.F. 1990. Direct selection for mutants with increased K+ transport in *Saccharomyces cerevisiae*. Genetics 125: 313-320.
4. Vidal, M. and Gaber, R.F. 1991. RPD3 encodes a second factor required to achieve maximum positive and negative transcriptional states in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 11: 6317-6327.
5. Gomez, M.J., Luyten, K., and Ramos, J. 1996. The capacity to transport potassium influences sodium tolerance in *Saccharomyces cerevisiae*. FEMS Microbiol. Letts. 135: 157-160.
6. LocusLink Report (LocusLink ID: 5994) http://www.ncbi.nlm.nih.gov/LocusLink

SOURCE

Trk1 (yC-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Trk1 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-15563 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Trk1 (yC-16) is recommended for detection of Trk1 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.

PROTOCOLS

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