SANTA CRUZ BIOTECHNOLOGY, INC.

Ena1 (yC-20): sc-15542

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The Power to Question

BACKGROUND

The gene ENA1 was cloned by its ability to complement the Li^+ sensitivity of a low Lithium-efflux strain. Sodium efflux and sodium tolerance depend on a putative P-type ATPase encoded by the gene ENA1(PMR2) in *Saccharomyces cerevisiae*. Sodium tolerance mediated through sodium pumps is regulated by calmodulin via a PP2B-independent mechanism which activates the Pmr2 ion pumps post-transcriptionally. PP2B (calcineurin, calcium/calmodulin-dependent phosphoprotein phosphatase) has a pivotal role in a signaling cascade activated by ion stress in yeast and is implicated in adaptation to high-salt conditions and mediates high salt-induced expression of the ENA1 gene. One important mechanism of Ena1 transcriptional regulation is based on repression under normal growth conditions, which is relieved by either osmotic induction or glucose starvation.

REFERENCES

1. Haro, R., Garciadeblas, B. and Rodriguez-Navarro, A. 1991. A novel P-type ATPase from yeast involved in sodium transport. FEBS Lett. 291: 189-191.
2. Banuelos, M.A., Quintero, F.J. and Rodriguez-Navarro, A. 1995. Functional expression of the Ena1(PMR2)-ATPase of *Saccharomyces cerevisiae* in *Schizosaccharomyces pombe*. Biochem. Biophys. Acta 1229: 233-238.
3. Wieland, J., Nitsche, A.M., Strayle, J., Steiner, H. and Rudolph, H.K. 1995. The PMR2 gene cluster encodes functionally distinct isoforms of a putative Na^+ pump in the yeast plasma membrane. EMBO J. 14: 3870-3882.
4. Hirata, D., Harada, S., Namba, H. and Miyakawa, T. 1995. Adaptation to high-salt stress in *Saccharomyces cerevisiae* is regulated by Ca^{2+}/calmodulin-dependent phosphoprotein phosphatase (calcineurin) and cAMP-dependent protein kinase. Mol. Gen. Genet. 249: 257-264.
5. Proft, M. and Serrano, R. 1999. Repressors and upstream repressing sequences of the stress-regulated ENA1 gene in *Saccharomyces cerevisiae*: bZIP protein Sko1p confers HOG-dependent osmotic regulation. Mol. Cell. Biol. 19: 537-546.

SOURCE

Ena1 (yC-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Ena1 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-15542 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

Ena1 (yC-20) is recommended for detection of Ena1 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.