SANTA CRUZ BIOTECHNOLOGY, INC.

# Sln1 (yN-20): sc-23743

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*The Power to Question*

## BACKGROUND

The ability to adapt to altered availability of free water is a fundamental property of living cells. Upon a shift to high osmolarity, yeast *Saccharomyces cerevisiae* cells rapidly stimulate a mitogen-activated protein (MAP) kinase cascade, the high-osmolarity glycerol (HOG) pathway, which orchestrates part of the transcriptional response. The yeast histidine kinase, Sln1, is a plasma membrane-associated osmosensor that regulates the activity of the osmotic stress MAP kinase pathway. Changes in the osmotic environment of the cell influence the autokinase activity of the cytoplasmic kinase domain of Sln1p. Sln1 regulates osmotolerance by using a two-component system. Two-component signal transduction systems involve histidine autophosphorylation and phosphotransfer to an aspartate residue on a receiver molecule. Specifically, the cytoplasmic coiled-coil domain of Sln1 is required for its histidine kinase activity. The Sln1-Ssk1 two-component system also mediates response to oxidative stress and in an oxidant-specific fashion.

## REFERENCES


1. Fassler, J.S., et al. 1997. Activated alleles of yeast SLN1 increase Mcm1-dependent reporter gene expression and diminish signaling through the Hog1 osmosensing pathway. J. Biol. Chem. 272: 13365-13371.
2. Singh, K.K. 2000. The *Saccharomyces cerevisiae* Sln1p-Ssk1p two-component system mediates response to oxidative stress and in an oxidant-specific fashion. Free Radic. Biol. Med. 29: 1043-1050.
3. Hohmann, S. 2002. Osmotic stress signaling and osmoadaptation in yeasts. Microbiol. Mol. Biol. Rev. 66: 300-372.
4. Tao, W., et al. 2002. A cytoplasmic coiled-coil domain is required for histidine kinase activity of the yeast osmosensor, Sln1. Mol. Microbiol. 43: 459-473.
5. O'Rourke, S.M., et al. 2002. A third osmosensing branch in *Saccharomyces cerevisiae* requires the Msb2 protein and functions in parallel with the Sho1 branch. Mol. Cell. Biol. 22: 4739-4749.


## SOURCE

Sln1 (yN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Sln1 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-23743 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

Sln1 (yN-20) is recommended for detection of Sln1 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.