

# SSK1 (yP-14): sc-79736

## BACKGROUND

SSK1 (osomolarity two-component system protein SSK1) is a 712 amino acid cytoplasmic protein. SSK1 is the final receptor of the Sln1-YPD1-SSK1 two-component regulatory system, which, in response to changes in the osmolarity of the extracellular environment, regulates the activity of the Hog1 pathway. During normal osmolarity, the phosphorelay intermediate protein YPD1 maintains SSK1 in a phosphorylated and inactive state. Under high osmolarity conditions, the unphosphorylated form of SSK1 activates SSK2 and SSK22, proteins which further stimulate the Pbs2-Hog1 MAPK-MAPK pathway.

## REFERENCES

- Sotelo, J. and Rodríguez-Gabriel, M.A. 2006. Mitogen-activated protein kinase Hog1 is essential for the response to arsenite in *Saccharomyces cerevisiae*. *Eukaryotic Cell* 5: 1826-1830.
- Menon, V., Li, D., Chauhan, N., Rajnarayanan, R., Dubrovskaya, A., West, A.H. and Calderone, R. 2006. Functional studies of the Ssk1p response regulator protein of *Candida albicans* as determined by phenotypic analysis of receiver domain point mutants. *Mol. Microbiol.* 62: 997-1013.
- Menon, V., Li, D., Chauhan, N., Rajnarayanan, R., Dubrovskaya, A., West, A.H. and Calderone, R. 2007. Two-component response regulators Ssk1p and Skn7p additively regulate high-osmolarity adaptation and fungicide sensitivity in *Cochliobolus heterostrophus*. *Eukaryotic Cell* 6: 171-181.
- Horie, T., Tatebayashi, K., Yamada, R. and Saito, H. 2008. Phosphorylated SSK1 prevents unphosphorylated SSK2 from activating the SSK2 mitogen-activated protein kinase kinase in the yeast high-osmolarity glycerol osmoregulatory pathway. *Mol. Cell. Biol.* 28: 5172-5183.
- Kaserer, A.O., Andi, B., Cook, P.F. and West, A.H. 2009. Effects of osmolytes on the Sln1-YPD1-SSK1 phosphorelay system from *Saccharomyces cerevisiae*. *Biochemistry* 48: 8044-8050.
- Krantz, M., Ahmadpour, D., Ottosson, L.G., Warringer, J., Waltermann, C., Nordlander, B., Klipp, E., Blomberg, A., Hohmann, S. and Kitano, H. 2009. Robustness and fragility in the yeast high osmolarity glycerol (HOG) signal-transduction pathway. *Mol. Syst. Biol.* 5: 281.

## SOURCE

SSK1 (yP-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SSK1 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-79736 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.

## APPLICATIONS

SSK1 (yP-14) is recommended for detection of SSK1 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 SSK1: 79 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.