SANTA CRUZ BIOTECHNOLOGY, INC.

Rho1 (y-260): sc-25818

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The Power to Question

BACKGROUND

In *Saccharomyces cerevisiae*, the small GTPase Rho1 plays an essential role in the control of cell wall synthesis and organization of the actin cytoskeleton. In the budding yeast *S. cerevisiae*, one of the main structural components of the cell wall is 1,3-β-glucan produced by 1,3-β-glucan synthase (GS). Rho1 is required for 1,3-β-glucan synthase activity, as yeast GS is composed of a putative catalytic subunit encoded by FKS1 and FKS2 and a regulatory subunit encoded by Rho1. Rho1 is also required for activation of protein kinase C and the cell integrity pathway, as well as for progression into G_1, cell polarization and exocytosis. Activation of PKC1 occurs via the GTPase Rho1 and the kinase pair PKH1 and PKH2. Several regulators for Rho1 are known, including the GTPase-activating proteins (GAPs) SAC7, BEM2 and BAG7. Rho1 directs formin-mediated actin ring assembly during budding yeast cytokinesis.

REFERENCES

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2. Schmelzle, T., et al. 2002. Yeast protein kinases and the Rho1 exchange factor TUS1 are novel components of the cell integrity pathway in yeast. Mol. Cell. Biol. 22: 1329-1339.
3. Schmidt, A., et al. 2002. The Rho1-GAPs SAC7, BEM2 and BAG7 control distinct Rho1 functions in *Saccharomyces cerevisiae*. Mol. Microbiol. 45: 1433-1441.
4. Sekiya-Kawasaki, M., et al. 2002. Dissection of upstream regulatory components of the Rho1p effector, 1,3-β-glucan synthase, in *Saccharomyces cerevisiae*. Genetics 162: 663-676.
5. Tolliday, N., et al. 2002. Rho1 directs formin-mediated Actin ring assembly during budding yeast cytokinesis. Curr. Biol.12: 1864-1870.
6. Abe, M., et al. 2003. Lack of GTP-bound Rho1p in secretory vesicles of *Saccharomyces cerevisiae*. J. Cell. Biol 162: 85-97.
7. Valdivia, R.H., et al. 2003. The yeasts Rho1p and Pkc1p regulate the transport of chitin synthase III (Chs3p) from internal stores to the plasma membrane. Proc. Natl. Acad. Sci. USA 100: 10287-10292.
8. Marelli, M., et al. 2004. Quantitative mass spectrometry reveals a role for the GTPase Rho1p in Actin organization on the peroxisome membrane. J. Cell Biol. 167: 1099-1112.

SOURCE

Rho1 (y-260) is a rabbit polyclonal antibody raised against amino acids 1-150 mapping at the N-terminus of Rho1 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Rho1 (y-260) is recommended for detection of Rho1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)] 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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

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.