SANTA CRUZ BIOTECHNOLOGY, INC.

Ras1 (yC-19): sc-6757

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The Power to Question

BACKGROUND

The guanine nucleotide exchange factor Cdc25 (also designated Ctn1) regulates adenylyl cyclase via the small G proteins Ras1 and Ras2 (also known as Glc5 or Ctn5). The yeast Ras proteins regulate cell growth and development by cycling between an active GTP-bound state and an inactive GDP-bound state. Adenylyl cyclase, encoded by the CDC35 gene (also designated Cyr1, Hrs1 or Sra4), catalyzes the formation of the second messenger cAMP. cAMP exerts its effects via a cAMP-dependent kinase consisting of two regulatory subunits, encoded by Bcy1 (also designated Reg1 or Sra1), and two catalytic subunits, encoded by Tpk1 (also designated Pka1 or Sra3). Gpr1is a G protein coupled receptor, which binds glucose and regulates intracellular levels of cAMP.

REFERENCES

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2. Kataoka, T., Broek, D. and Wigler, M. 1985. DNA sequence and characterization of the *S. cerevisiae* gene encoding adenylate cyclase. Cell 43: 493-505.
3. Broek, D., Toda, T., Michaeli, T., Levin, L., Birchmeier, C., Zoller, M., Powers, S. and Wigler, M. 1987. The *S. cerevisiae* CDC25 gene product regulates the Ras/adenylate cyclase pathway. Cell 48: 789-799.
4. Toda, T., Cameron, S., Sass, P., Zoller, M. and Wigler, M. 1987. Three different genes in *S. cerevisiae* encode the catalytic subunits of the cAMP-dependent protein kinase. Cell 50: 277-287.
5. Toda, T., Cameron, S., Sass, P., Zoller, M., Scott, J.D., McMullen, B., Hurwitz, M., Krebs, E.G. and Wigler, M. 1987. Cloning and characterization of Bcy1, a locus encoding a regulatory subunit of the cyclic AMP-dependent protein kinase in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 7: 1371-1377.
6. Oehlen, L.J.W.M., Scholte, M.E., de Koning, W. and van Dam, K. 1993. Inactivation of the CDC25 gene product in *Saccharomyces cerevisiae* leads to a decrease in glycolytic activity which is independent of cAMP levels. J. Gen. Microbiol. 139: 2091-2100.
7. Mintzer, K.A. and Field, J. 1994. Interactions between adenylyl cyclase, CAP and RAS from *Saccharomyces cerevisiae*. Cell. Signal. 6: 681-694.
8. Yun, C.W., Tamaki, H., Nakayama, R., Yamamoto, K. and Kumagai, H. 1998. Gpr1p, a putative G protein-coupled receptor, regulates glucose-dependent cellular cAMP level in yeast *Saccharomyces cerevisiae*. Biochem. Biophys. Res. Commun. 252: 29-33.

SOURCE

Ras1 (yC-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Ras1 of *Saccharomyces cerevisiae* origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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-6757 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ras1 (yC-19) is recommended for detection of Ras1 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).

Molecular Weight of Ras1: 34 kDa.

Positive Controls: *S. cerevisiae* whole cell lysate.

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.

SELECT PRODUCT CITATIONS

1. Zhu, Y., Zhong, X., Zheng, S., Du, Q. and Xu, W. 2005. Transformed immortalized gastric epithelial cells by virulence factor CagA of Helico-bacter pylori through Erk mitogen-activated protein kinase pathway. Oncogene 24: 3886-3895.

RESEARCH USE

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

PROTOCOLS

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