

# Ras2 (A-11): sc-365773

## 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*).

## REFERENCES

1. Broek, D., Samiy, N., Fosano, O., Fujiyama, A., Tamanoi, F., Northup, J. and Wigler, M. 1985. Differential activation of yeast adenylyl cyclase by wild-type and mutant RAS proteins. *Cell* 41: 763-769.
2. Kataoka, T., Broek, D. and Wigler, M. 1985. DNA sequence and characterization of the *S. cerevisiae* gene encoding adenylyl cyclase. *Cell* 43: 493-505.
3. 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.
4. 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/adenylyl cyclase pathway. *Cell* 48: 789-799.
5. 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.
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.

## SOURCE

Ras2 (A-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 279-312 near the C-terminus of Ras2 of *Saccharomyces cerevisiae* origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365773 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

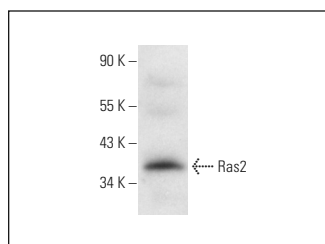
## APPLICATIONS

Ras2 (A-11) is recommended for detection of Ras2 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 Ras2: 35 kDa.

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

## DATA



Ras2 (A-11): sc-365773. Western blot analysis of Ras2 expression in *S. cerevisiae* whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Ravishankar, R., Hildebrandt, E.R., Greenway, G., Asad, N., Gore, S., Dore, T.M. and Schmidt, W.K. 2023. Specific disruption of Ras2 CAAX proteolysis alters its localization and function. *Microbiol. Spectr.* E-published.

## 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](http://www.scbt.com) for detailed protocols and support products.