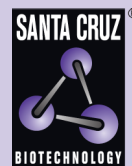


Tpk1 (F-3): sc-374592



The Power to Question

BACKGROUND

The guanine nucleotide exchange factor Cdc25 (also designated Ctn1) regulates adenyl 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. Adenyl 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 adenylate 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 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.

SOURCE

Tpk1 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 367-397 near the C-terminus of Tpk1 of *Saccharomyces cerevisiae* origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tpk1 (F-3) is available conjugated to agarose (sc-374592 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374592 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374592 PE), fluorescein (sc-374592 FITC), Alexa Fluor® 488 (sc-374592 AF488), Alexa Fluor® 546 (sc-374592 AF546), Alexa Fluor® 594 (sc-374592 AF594) or Alexa Fluor® 647 (sc-374592 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374592 AF680) or Alexa Fluor® 790 (sc-374592 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374592 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

Tpk1 (F-3) is recommended for detection of Tpk1 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).

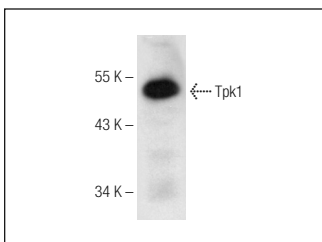
Molecular Weight of Tpk1: 48 kDa.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Tpk1 (F-3): sc-374592. Western blot analysis of Tpk1 expression in *S. cerevisiae* whole cell lysate.

SELECT PRODUCT CITATIONS

1. Roger, F., Picazo, C., Reiter, W., Libiad, M., Asami, C., Hanzén, S., Gao, C., Lagniel, G., Welkenhuysen, N., Labarre, J., Nyström, T., Grøtli, M., Hartl, M., Toledano, M.B. and Molin, M. 2020. Peroxiredoxin promotes longevity and H₂O₂-resistance in yeast through redox-modulation of protein kinase A. *Elife* 9: e60346.

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.

PROTOCOLS

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