



Tor2 (γ-155): sc-33627

BACKGROUND

Tor proteins, which encode putative phosphatidylinositol kinases, are involved in a signal transduction pathway in *S. cerevisiae* that activates cell wall expansion and protein synthesis in response to nutrient availability. Both Tor1, a 281 kDa protein, and Tor2, a 282 kDa protein, mediate protein synthesis via the phosphorylation of Tap42, which inhibits type-2A phosphatases. Tor1 and Tor2 also regulate G₁ progression in yeast, and loss of Tor or treatment with rapamycin causes cells to arrest in early G₁. In addition to its overlapping function with Tor1, Tor2 is essential for the regulation of the cell-cycle dependent organization of the actin cytoskeleton. The Tor signaling pathway is thought to mediate cell growth by harboring transcription factors in the cytoplasm, which mediate nutrient metabolism.

REFERENCES

1. Kunz, J., Henriquez, R., Schneider, U., Deuter-Reinhard, M., Mowva, N.R. and Hall, M.N. 1993. Target of rapamycin in yeast, Tor2, is an essential phosphatidylinositol kinase homolog required for G₁ progression. *Cell* 73: 585-596.
2. Helliwell, S.B., Wagner, P., Kunz, J., Deuter-Reinhard, M., Henriquez, R. and Hall, M.N. 1994. Tor1 and Tor2 are structurally and functionally similar but not identical phosphatidylinositol kinase homologues in yeast. *Mol. Biol. Cell* 5: 105-118.
3. Schmidt, A., Kunz, J. and Hall, M.N. 1996. Tor2 is required for organization of the actin cytoskeleton in yeast. *Proc. Natl. Acad. Sci. USA* 93: 13780-13785.
4. Schmidt, A., Beck T., Koller, A., Kunz, J. and Hall, M.N. 1998. The Tor nutrient signalling pathway phosphorylates NPR1 and inhibits turnover of the tryptophan permease. *EMBO J.* 17: 6924-6931.
5. Helliwell, S.B., Howald, I., Barbet, N. and Hall, M.N. 1998. Tor2 is part of two related signaling pathways coordinating cell growth in *Saccharomyces cerevisiae*. *Genetics* 148: 99-112.
6. Jiang, Y. and Broach, J.R. 1999. Tor proteins and protein phosphatase 2A reciprocally regulate Tap42 in controlling cell growth in yeast. *EMBO J.* 18: 2782-2792.
7. Beck, T. and Hall, M.N. 1999. The Tor signalling pathway controls nuclear localization of nutrient-regulated transcription factors. *Nature* 402: 689-692.

SOURCE

Tor2 (γ-155) is a rabbit polyclonal antibody raised against amino acids 1-155 mapping at the N-terminus of Tor2 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.

STORAGE

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

APPLICATIONS

Tor2 (γ-155) is recommended for detection of Tor2 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)], 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 Tor2: 282 kDa.

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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 or our catalog for detailed protocols and support products.