SANTA CRUZ BIOTECHNOLOGY, INC.

Tor2 (yN-17): sc-11904

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The Power to Question

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 and Tor2 mediate protein synthesis via the phosphorylation of Tap42, which inhibits type-2A phosphatases. Tor1 and Tor2 also regulate G_1 progression in yeast, and loss of Tor or treatment with Rapamycin causes cells to arrest in early G_1. 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., Movva, N.R. and Hall, M.N. 1993. Target of Rapamycin in yeast, Tor2, is an essential phosphatidylinositol kinase homolog required for G_1 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 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 (yN-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-11904 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Tor2 (yN-17) is recommended for detection of Tor2 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 Tor2: 282 kDa.

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. Yue, L., Christman, J.W. and Mazzone, T. 2008. Tumor necrosis factor-α-mediated suppression of adipocyte apolipoprotein E gene transcription: primary role for the nuclear factor (NF)-κB pathway and NFκB p50. Endocrinology 149: 4051-4058.

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 or our catalog for detailed protocols and support products.