SANTA CRUZ BIOTECHNOLOGY, INC.

Tap42 (yD-15): sc-33283

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In *Saccharomyces cerevisiae*, the target of rapamycin (Tor) pathway, mediates cell proliferation and growth. Two A phosphatase associated protein (Tap42) is part of the Tor signalling pathway and is involved in transcriptional modulation. Tap42 is phosphorlyated by Tor and interacts with the catalytic subunits of protein phosphatase 2A (PP2A) and closely related phosphatase Sit4 via their N-terminal domains. Tap42 can also interact with Pph3 and Ppg1, two 2A-like phosphatases. Tap42 acts as an inhibitor of PP2A phosphatase, and the complex between Tap42 and the catalytic subunit of PP2A acts via a Rho GTPase-dependent mechanism to regulate the actin cytoskeleton in *S. cerevisiae*. Upon treatment with rapamycin, Tap42 interacts with TIP41, which binds to and inhibits Tap42. In mammals, the homolog of Tap42 is known as α4.

REFERENCES

1. Di Como, C.J., et al. 1996. Nutrients, via the Tor proteins, stimulate the association of Tap42 with type 2A phosphatases. Genes Dev. 10: 1904-1916.
2. Nanahoshi, M., et al. 1998. Regulation of protein phosphatase 2A catalytic activity by α4 protein and its yeast homolog Tap42. Biochem. Biophys. Res. Commun. 251: 520-526.
3. Jiang, Y., et al. 1999. Tor proteins and protein phosphatase 2A reciprocally regulate Tap42 in controlling cell growth in yeast. EMBO J. 18: 2782-2792.
4. Jacinto, E., et al. 2001. TIP41 interacts with Tap42 and negatively regulates the TOR signaling pathway. Mol. Cell 8: 1017-1026.
5. Torres, J., et al. 2002. Regulation of the cell integrity pathway by rapamycin-sensitive TOR function in budding yeast. J. Biol. Chem. 277: 43495-43504.
6. Cherkasova, V.A., et al. 2003. Translational control by Tor and Tap42 through dephosphorylation of eIF2α kinase GCN2. Genes Dev. 17: 859-872.
7. Duvel, K., et al. 2003. Multiple roles of Tap42 in mediating rapamycin-induced transcriptional changes in yeast. Mol. Cell. 11: 1467-1478.
8. Wang, H., et al. 2003. Interaction with Tap42 is required for the essential function of Sit4 and type 2A phosphatases. Mol. Biol. Cell. 14: 4342-4351.

SOURCE

Tap42 (yD-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Tap42 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-33283 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Tap42 (yD-15) is recommended for detection of Tap42 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 Tap42: 42 kD 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. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.