SANTA CRUZ BIOTECHNOLOGY, INC.

# TC10 (N-18): sc-12637

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

TC10 is a small GTP-binding protein that is induced during nerve injury, where it cooperates with other Rho family members to facilitate nerve regeneration and, in particular, neurite elongation. TC10 is located predominantly in the plasma membrane, a property that depends both on its post-translational prenylation and on its ability to bind and hydrolyze GTP. TC10 co-localizes to Actin filaments and interacts with the Actin-binding and filament-forming protein profilin. It functions to regulate cellular signaling to the Actin cytoskeleton and processes associated with cell growth. TC10 also interacts with a similar subset of effectors for Cdc42 and is regulated differentially by p50Rho GTPase-activating protein. Activated TC10 interacts with a variety of putative Rho family effectors, stimulates JNK and induces filopodial formation.

## REFERENCES


1. Drivas, G. T., et al. 1990. Characterization of four novel Ras-like genes expressed in a human teratocarcinoma cell line. Mol. Cell. Biol. 10: 1793-1798.
2. Hall, A. 1998. Rho GTPases and the Actin cytoskeleton. Science 279: 509-514.
3. Neudauer, C.L., et al. 1998. Distinct cellular effects and interactions of the Rho-family GTPase TC10. Curr. Biol. 8: 1151-1160.
4. Murphy, G.A., et al. 1999. Cellular functions of TC10, a Rho family GTPase: regulation of morphology, signal transduction and cell growth. Oncogene 18: 3831-3845.
5. Tanabe, K., et al. 2000. The small GTP-binding protein TC10 promotes nerve elongation in neuronal cells, and its expression is induced during nerve regeneration in rats. J. Neurosci. 20: 4138-4144.


## CHROMOSOMAL LOCATION

Genetic locus: RHOQ (human) mapping to 2p21; Rhoq (mouse) mapping to 17 E4.

## SOURCE

TC10 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TC10 of human 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-12637 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.

## RESEARCH USE

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

## APPLICATIONS

TC10 (N-18) is recommended for detection of TC10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for TC10 siRNA (h): sc-41893, TC10 siRNA (m): sc-41894, TC10 shRNA Plasmid (h): sc-41893-SH, TC10 shRNA Plasmid (m): sc-41894-SH, TC10 shRNA (h) Lentiviral Particles: sc-41893-V and TC10 shRNA (m) Lentiviral Particles: sc-41894-V.

## 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.

## SELECT PRODUCT CITATIONS


1. Erschbamer, M.K., et al. 2005. RhoA, RhoB, RhoC, Rac1, Cdc42, and Tc10 mRNA levels in spinal cord, sensory ganglia, and corticospinal tract neurons and long-lasting specific changes following spinal cord injury. J. Comp. Neurol. 484: 224-233.
2. Bernard, J.R., et al. 2006. High-fat feeding effects on components of the CAP/Cbl signaling cascade in Sprague-Dawley rat skeletal muscle. Metab. Clin. Exp. 55: 203-212.
3. Saito, M., et al. 2008. Activation of atypical protein kinase Cζ toward TC10 is regulated by high-fat diet and aerobic exercise in skeletal muscle. Metabolism 57: 1173-1180.


## PROTOCOLS

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