SANTA CRUZ BIOTECHNOLOGY, INC.

TC1 (C-13): sc-98165

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TC1 (thyroid cancer protein 1), whose alternative names include C8orf4 or MGC22806, is a natively disordered and novel tumorigenic protein consisting of 106 amino acids that is known to associate with thyroid, gastric and breast cancers. TC1 is ubiquitously expressed and may enhance the aggressive behavior of cancers by acting as an upstream regulator involved in positive regulation of the Wnt/β-catenin signaling pathway. Upregulation of TC1 by mitogens and the ERK 1/2 signaling pathway promotes the G_1- to S-phase transition of the cell cycle. TC1 also plays a role as a novel heat shock response regulator that is upregulated by cellular stresses and heat shock. The gene encoding TC1 maps to human chromosome 8, which consists of nearly 146 million base pairs, encodes over 800 genes and is associated with a variety of diseases and malignancies including Schizophrenia, bipolar disorder, Trisomy 8, Pfeiffer syndrome and congenital hypothyroidism.

REFERENCES

1. Sunde, M., et al. 2004. TC1 is a novel tumorigenic and natively disordered protein associated with thyroid cancer. Cancer Res. 64: 2766-2773.
2. Friedman, J.B., et al. 2004. C8orf4 is a transforming growth factor B induced transcript downregulated in metastatic colon cancer. Int. J. Cancer 111: 72-75.
3. Jung, Y., et al. 2006. TC1 (C8orf4) enhances the Wnt/β-catenin pathway by relieving antagonistic activity of Chibby. Cancer Res. 66: 723-728.
4. Kim, B., et al. 2006. TC1 (C8orf4) correlates with Wnt/β-catenin target genes and aggressive biological behavior in gastric cancer. Clin. Cancer Res. 12: 3541-3548.
5. Agrelo, R., et al. 2006. Epigenetic inactivation of the premature aging Werner syndrome gene in human cancer. Proc. Natl. Acad. Sci. USA 103: 8822-8827.
6. Park, J., et al. 2007. TC1 (C8orf4) is upregulated by cellular stress and mediates heat shock response. Biochem. Biophys. Res. Commun. 360: 447-452.
7. Yang, Z.Q., et al. 2007. Transforming properties of TC1 in human breast cancer: interaction with FGFR-2 and β-catenin signaling pathways. Int. J. Cancer 121: 1265-1273.
8. Gall, C., et al. 2007. The intrinsically disordered TC1 interacts with Chibby via regions with high helical propensity. Protein Sci. 16: 2510-2518.

CHROMOSOMAL LOCATION

Genetic locus: C8orf4 (human) mapping to 8p11.21; 1810011O10Rik (mouse) mapping to 8 A2.

SOURCE

TC1 (C-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of TC1 of human origin.

STORAGE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-98165 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TC1 (C-13) is recommended for detection of TC1 of human origin, 1810011O10Rik of mouse origin and LOC100910163 of rat 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).

Suitable for use as control antibody for TC1 siRNA (h): sc-77472, 1810011O10Rik siRNA (m): sc-108546, TC1 shRNA Plasmid (h): sc-77472-SH, 1810011O10Rik shRNA Plasmid (m): sc-108546-SH, TC1 shRNA (h) Lentiviral Particles: sc-77472-V and 1810011O10Rik shRNA (m) Lentiviral Particles: sc-108546-V.

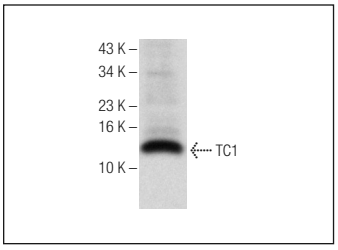
Molecular Weight of TC1: 12 kDa.

Positive Controls: Mouse thyroid extract: sc-2407 or rat thyroid extract: sc-2402.

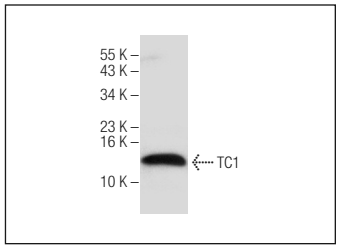
RECOMMENDED SECONDARY REAGENTS

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.

DATA



TC1 (C-13): sc-98165. Western blot analysis of TC1 expression in mouse thyroid tissue extract.



TC1 (C-13): sc-98165. Western blot analysis of TC1 expression in rat thyroid tissue extracts.

RESEARCH USE

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