SANTA CRUZ BIOTECHNOLOGY, INC.

TOB2 (M-20): sc-18554

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TOB1 (TROB, APRO6, PIG49) and TOB2 (TOB4, TROB2, TOBL) are anti-proliferative proteins that modulate cell cycle progression from the G_0/G_1 to S phases through interactions with the mammalian homologue of yeast Caf1. TOB proteins present in the central nervous system may be engaged in acquisition of motor skill. TOB1 in T lymphocytes can interact with Smad2/4, augment SMAD DNA binding to the IL-2 promoter, and lead to an inhibition of IL-2 transcription. In oncogenic ErbB-2-transformed cells, nuclear export of TOB1 results in a decrease in antiproliferative activity. ERK/MAPK (ERK2) and JNK/SAPK (JNK2) phosphorylate TOB1 *in vitro,* and TOB1 can undergo phosphorylation at Ser 152, Ser 154 and Ser 164 by ERK1/2 upon growth-factor stimulation. TOB2 gene encodes a 4.1-kb transcript with high expression in skeletal muscle, thymus and ovary.

REFERENCES

1. Matsuda, S., et al. 1996. TOB, a novel protein that interacts with p185erbB2, is associated with anti-proliferative activity. Oncogene 12: 705-713.
2. Ikematsu, N., et al. 1999. TOB2, a novel antiproliferative TOB/BTG1 family member, associates with a component of the CCR4 transcriptional regulatory complex capable of binding cyclin-dependent kinases. Oncogene 18: 7432-7441.
3. Ajima, R., et al. 2000. Cloning and characterization of the mouse Tob2 gene. Gene 253: 215-220.
4. Yoshida, Y., et al. 2000. Negative regulation of BMP/Smad signaling by TOB in osteoblasts. Cell 103: 1085-1097.
5. Tzachanis, D., et al. 2001. TOB is a negative regulator of activation that is expressed in anergic and quiescent T cells. Nat. Immunol. 2: 1174-1182.
6. Suzuki, T., et al. 2002. Phosphorylation of three regulatory serines of TOB by Erk1 and Erk2 is required for Ras-mediated cell proliferation and transformation. Genes Dev. 16: 1356-1370.
7. Maekawa, M., et al. 2002. Identification of the anti-proliferative protein TOB as a MAPK substrate. J. Biol. Chem. 277: 37783-37787.
8. Kawamura-Tsuzuku, J., et al. 2004. Nuclear localization of TOB is important for regulation of its antiproliferative activity. Oncogene 23: 6630-6638.

CHROMOSOMAL LOCATION

Genetic locus: Tob2 (mouse) mapping to 15 E1.

SOURCE

TOB2 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TOB2 of mouse 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-18554 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TOB2 (M-20) is recommended for detection of TOB2 of mouse and 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 TOB2 siRNA (m): sc-37507, TOB2 shRNA Plasmid (m): sc-37507-SH and TOB2 shRNA (m) Lentiviral Particles: sc-37507-V.

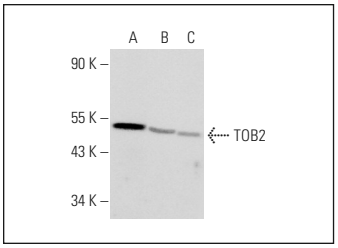
Molecular Weight of TOB2: 45 kDa.

Positive Controls: mouse brain extract: sc-2253, WEHI-231 whole cell lysate: sc-2213 or KNRK whole cell lysate: sc-2214.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



TOB2 (M-20): sc-18554. Western blot analysis of TOB2 expression in mouse brain tissue extract (**A**) and WEHI-231 (**B**) and KNRK (**C**) whole cell lysates.

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.