SANTA CRUZ BIOTECHNOLOGY, INC.

TOB2 (N-20): sc-18551

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 homolog 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*. TOB1 can undergo phosphorylation at Ser 152, Ser 154 and Ser 164 by ERK1/2 upon growth-factor stimulation. The 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.

CHROMOSOMAL LOCATION

Genetic locus: TOB2 (human) mapping to 22q13.2; Tob2 (mouse) mapping to 15 E1.

SOURCE

TOB2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TOB2 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-18551 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

TOB2 (N-20) is recommended for detection of TOB2 of mouse, rat and human 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).

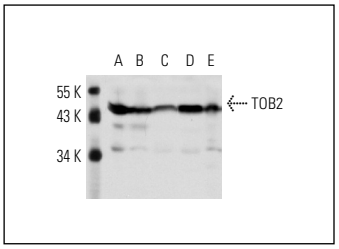
TOB2 (N-20) is also recommended for detection of TOB2 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for TOB2 siRNA (h): sc-37506, TOB2 siRNA (m): sc-37507, TOB2 shRNA Plasmid (h): sc-37506-SH, TOB2 shRNA Plasmid (m): sc-37507-SH, TOB2 shRNA (h) Lentiviral Particles: sc-37506-V and TOB2 shRNA (m) Lentiviral Particles: sc-37507-V.

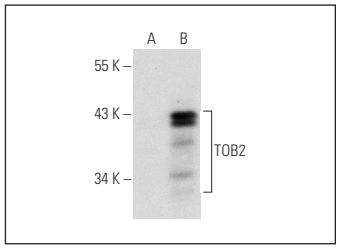
Molecular Weight of TOB2: 45 kDa.

Positive Controls: Ramos cell lysate: sc-2216, HeLa whole cell lysate: sc-2200 or TOB2 (m2): 293T Lysate: sc-124210.

DATA



TOB2 (N-20): sc-18551. Western blot analysis of TOB2 expression in HeLa (**A**), NIH/3T3 (**B**), Ramos (**C**), IB4 (**D**) and K-562 (**E**) whole cell lysates.



TOB2 (N-20): sc-18551. Western blot analysis of TOB2 expression in non-transfected: sc-117752 (**A**) and mouse TOB2 transfected: sc-124210 (**B**) 293T whole cell lysates.

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.