

TOB1 (D-7): sc-136969

BACKGROUND

TOB1 (TROB, APRO6, PIG49) and TOB2 (TOB4, TROB2, TOBL) are anti-proliferative proteins that modulate cell cycle progression from the G₀/G₁ 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 (ERK 2) and JNK/SAPK (JNK2) phosphorylate TOB1 *in vitro*, and TOB1 can undergo phosphorylation at Ser 152, Ser 154 and Ser 164 by ERK 1/2 upon growth-factor stimulation. TOB2 gene encodes a 4.1-kb transcript with high expression in skeletal muscle, thymus and ovary.

REFERENCES

- Matsuda, S., et al. 1996. TOB, a novel protein that interacts with p185ErbB2, is associated with anti-proliferative activity. *Oncogene* 12: 705-713.
- Ikematsu, N., et al. 1999. TOB2, a novel anti-proliferative TOB/BTG1 family member, associates with a component of the CCR4 transcriptional regulatory complex capable of binding cyclin-dependent kinases. *Oncogene* 18: 7432-7441.
- Ajima, R., et al. 2000. Cloning and characterization of the mouse Tob2 gene. *Gene* 253: 215-220.
- Yoshida, Y., et al. 2000. Negative regulation of BMP/Smad signaling by TOB in osteoblasts. *Cell* 103: 1085-1097.
- 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.
- Suzuki, T., et al. 2002. Phosphorylation of three regulatory serines of TOB by ERK 1 and ERK 2 is required for Ras-mediated cell proliferation and transformation. *Genes Dev.* 16: 1356-1370.
- Maekawa, M., et al. 2002. Identification of the anti-proliferative protein TOB as a MAPK substrate. *J. Biol. Chem.* 277: 37783-37787.

CHROMOSOMAL LOCATION

Genetic locus: TOB1 (human) mapping to 17q21.33; Tob1 (mouse) mapping to 11 D.

SOURCE

TOB1 (D-7) is a mouse monoclonal antibody raised against amino acids 271-340 mapping near the C-terminus of TOB1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

TOB1 (D-7) is recommended for detection of TOB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 TOB1 siRNA (h): sc-37504, TOB1 siRNA (m): sc-37505, TOB1 shRNA Plasmid (h): sc-37504-SH, TOB1 shRNA Plasmid (m): sc-37505-SH, TOB1 shRNA (h) Lentiviral Particles: sc-37504-V and TOB1 shRNA (m) Lentiviral Particles: sc-37505-V.

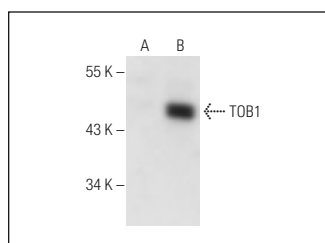
Molecular Weight of TOB1: 45 kDa.

Positive Controls: TOB1 (h): 293T Lysate: sc-111567 or mouse brain extract: sc-2253.

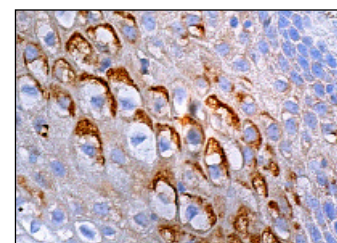
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TOB1 (D-7): sc-136969. Western blot analysis of TOB1 expression in non-transfected: sc-117752 (A) and human TOB1 transfected: sc-111567 (B) 293T whole cell lysates.



TOB1 (D-7): sc-136969. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing cytoplasmic staining of squamous epithelial cells.

RESEARCH USE

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

PROTOCOLS

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