

TOB1 (H-70): sc-33192

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 (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

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- 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 Erk1 and Erk2 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.
- Kawamura-Tsuzuku, J., et al. 2004. Nuclear localization of TOB is important for regulation of its antiproliferative activity. *Oncogene* 23: 6630-6638.
- Jin, M., et al. 2005. The negative cell cycle regulator, TOB (transducer of ErbB-2), is a multifunctional protein involved in hippocampus-dependent learning and memory. *Neuroscience* 131: 647-659.

CHROMOSOMAL LOCATION

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

SOURCE

TOB1 (H-70) is a rabbit polyclonal antibody raised against amino acids 271-340 mapping near the C-terminus of TOB1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TOB1 (H-70) is recommended for detection of TOB1 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), 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).

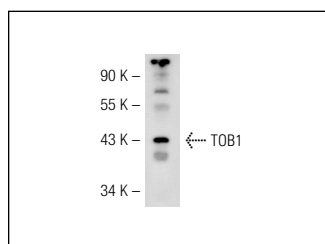
TOB1 (H-70) is also recommended for detection of TOB1 in additional species, including equine, canine, bovine, porcine and avian.

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.

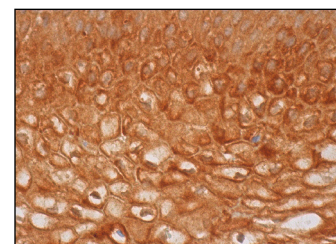
Molecular Weight of TOB1: 45 kDa.

Positive Controls: mouse brain extract: sc-2253.

DATA



TOB1 (H-70): sc-33192. Western blot analysis of TOB1 expression in mouse brain tissue extract.



TOB1 (H-70): sc-33192. Immunoperoxidase staining of formalin fixed, paraffin-embedded human vaginal tissue showing cytoplasmic and membrane staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Corvol, J.C., et al. 2008. Abrogation of T cell quiescence characterizes patients at high risk for multiple sclerosis after the initial neurological event. *Proc. Natl. Acad. Sci. USA* 105: 11839-11844.

STORAGE

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

MONOS
Satisfaction
Guaranteed

Try **TOB1 (E-1): sc-133095** or **TOB1 (D-7): sc-136969**, our highly recommended monoclonal alternatives to TOB1 (H-70).