

TOB1 (E-1): sc-133095

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.

CHROMOSOMAL LOCATION

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

SOURCE

TOB1 (E-1) 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.

TOB1 (E-1) is available conjugated to agarose (sc-133095 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133095 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133095 PE), fluorescein (sc-133095 FITC), Alexa Fluor[®] 488 (sc-133095 AF488), Alexa Fluor[®] 546 (sc-133095 AF546), Alexa Fluor[®] 594 (sc-133095 AF594) or Alexa Fluor[®] 647 (sc-133095 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-133095 AF680) or Alexa Fluor[®] 790 (sc-133095 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TOB1 (E-1) 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.

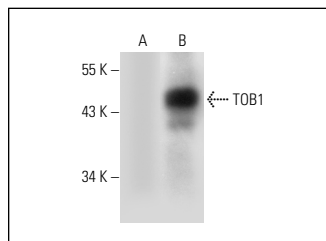
Molecular Weight of TOB1: 45 kDa.

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

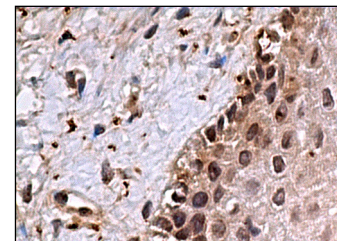
STORAGE

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

DATA



TOB1 (E-1): sc-133095. Western blot analysis of TOB1 expression in non-transfected: sc-117752 (A) and human TOB1 transfected: sc-111567 (B) 293T whole cell lysates.



TOB1 (E-1): sc-133095. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Jiao, Y., et al. 2012. Suppression of human lung cancer cell proliferation and metastasis *in vitro* by the transducer of ErbB-2.1 (TOB1). *Acta Pharmacol. Sin.* 33: 250-260.
- Sun, K.K., et al. 2013. Enhanced radiosensitivity of NSCLC cells by transducer of ErbB2.1 (TOB1) through modulation of the MAPK/ERK pathway. *Oncol. Rep.* 29: 2385-2391.
- Zhang, S.Q., et al. 2015. Clinicopathological significance of cytoplasmic transducer of ErbB2.1 expression in gastric cancer. *Mol. Med. Rep.* 12: 1177-1182.
- Shapouri, F., et al. 2016. TOB1 is expressed in developing and adult gonads and is associated with the P-body marker, Dcp2. *Cell Tissue Res.* 364: 443-451.
- Yang, Y., et al. 2018. Prognostic value of transducer of ErbB2.1 (TOB1) expression in patients with gastric cancer: tissue microarray analysis. *Int. J. Clin. Exp. Pathol.* 11: 4060-4066.
- Guo, H., et al. 2019. MicroRNA-371a-3p promotes progression of gastric cancer by targeting TOB1. *Cancer Lett.* 443: 179-188.
- Fonseca-Camarillo, G., et al. 2021. Expression of TOB/BTG family members in patients with inflammatory bowel disease. *Scand. J. Immunol.* 93: e13004.

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.