

# TMUB1 (G-12): sc-162339

## BACKGROUND

TMUB1 (transmembrane and ubiquitin-like domain-containing protein 1), also known as HOPS (hepatocyte odd protein shuttling protein), is a 245 amino acid multi-pass membrane protein that may contribute to translation regulation during cell cycle progression. TMUB1 functions as a shuttling protein and contains a ubiquitin-like domain, through which it modifies cellular targets in a pathway parallel to ubiquitin. TMUB1 appears to be associated with centrosome assembly and maintenance, therefore providing evidence that it is implicated in the control of cell division. During liver regeneration, TMUB1 is rapidly exported from the nucleus and is overexpressed, an event that is triggered by cAMP. Overexpression of TMUB1 in NIH/3T3 cells and H-35-hepatoma leads to dramatically reduced proliferation, suggesting that TMUB1 may be a potential target of therapeutic use in the treatment of certain cancers.

## REFERENCES

1. Cajone, F. and Bernelli-Zazzera, A. 1980. Protein synthesis in regenerating liver. *Int. J. Biochem.* 12: 537-544.
2. Galloway, I. and Stirrups, D.R. 1989. The effect of age at diagnosis on the complexity and outcome of treatment of palatally ectopic canines. *Br. J. Orthod.* 16: 259-263.
3. Inoue, S., et al. 2000. Growth suppression of *Escherichia coli* by induction of expression of mammalian genes with transmembrane or ATPase domains. *Biochem. Biophys. Res. Commun.* 268: 553-561.
4. Lingle, W.L., et al. 2005. Deregulation of the centrosome cycle and the origin of chromosomal instability in cancer. *Adv. Exp. Med. Biol.* 570: 393-421.
5. Della Fazio, M.A., et al. 2005. HOPS: a novel cAMP-dependent shuttling protein involved in protein synthesis regulation. *J. Cell Sci.* 118: 3185-3194.
6. Pieroni, S., et al. 2008. HOPS is an essential constituent of centrosome assembly. *Cell Cycle* 7: 1462-1466.
7. Yang, H., et al. 2008. Transmembrane and ubiquitin-like domain-containing protein 1 (TMUB1/HOPS) facilitates surface expression of GluR2-containing AMPA receptors. *PLoS ONE* 3: e2809.

## CHROMOSOMAL LOCATION

Genetic locus: *Tmub1* (mouse) mapping to 5 A3.

## SOURCE

TMUB1 (G-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TMUB1 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-162339 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TMUB1 (G-12) is recommended for detection of TMUB1 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 TMUB1 siRNA (m): sc-154536, TMUB1 shRNA Plasmid (m): sc-154536-SH and TMUB1 shRNA (m) Lentiviral Particles: sc-154536-V.

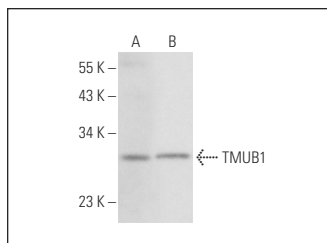
Molecular Weight of TMUB1: 26-27 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or RAW 264.7 whole cell lysate: sc-2211.

## 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



TMUB1 (G-12): sc-162339. Western blot analysis of TMUB1 expression in PC-12 (A) and RAW 264.7 (B) 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](http://www.scbt.com) or our catalog for detailed protocols and support products.