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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

TMUB1 siRNA (m): sc-154536

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 3T3-NIH 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

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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.
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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.

PRODUCT

TMUB1 siRNA (m) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TMUB1 shRNA Plasmid (m): sc-154536-SH and TMUB1 shRNA (m) Lentiviral Particles: sc-154536-V as alternate gene silencing products.

For independent verification of TMUB1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154536A and sc-154536B.

RESEARCH USE

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TMUB1 siRNA (m) is recommended for the inhibition of TMUB1 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TMUB1 gene expression knockdown using RT-PCR Primer: TMUB1 (m)-PR: sc-154536-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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