SANTA CRUZ BIOTECHNOLOGY, INC.

# TBC1D24 siRNA (h): sc-93059

## BACKGROUND

TBC1D24 (TBC1 domain family member 24) is a 559 amino acid cytoplasmic protein that may act as a GTPase-activating protein for Rab family proteins and exists as two alternatively spliced isoforms. TBC1D24 contains one Rab-GAP TBC domain, one TLD domain and interacts with ARF6. Involved in neuronal projection development, probably through a negative modulation of ARF6 function, TBC1D24 is highly expressed in brain. TBC1D24 is also expressed in testis, skeletal muscle, heart, kidney, lung and liver. Defects in the TBC1D24 gene are the cause of familial infantile myoclonic epilepsy (FIME), which is characterized as a subtype of idiopathic epilepsy starting in early infancy and manifesting as myoclonic seizures, febrile convulsions and tonic-clonic seizures. The gene that encodes TBC1D24 contains 28,353 bases and maps to human chromosome 16p13.3.

## REFERENCES


1. Zara, F., et al. 2000. Mapping of a locus for a familial autosomal recessive idiopathic myoclonic epilepsy of infancy to chromosome 16p13. Am. J. Hum. Genet. 66: 1552-1557.
2. de Curtis, I. 2008. Functions of Rac GTPases during neuronal development. Dev. Neurosci. 30: 47-58.
3. Ishibashi, K., Kanno, E., Itoh, T. and Fukuda, M. 2009. Identification and characterization of a novel Tre-2/Bub2/Cdc16 (TBC) protein that possesses Rab3A-GAP activity. Genes Cells 14: 41-52.
4. Falace, A., et al. 2010. TBC1D24, an ARF6-interacting protein, is mutated in familial infantile myoclonic epilepsy. Am. J. Hum. Genet. 87: 365-370.
5. Corbett, M.A., et al. 2010. A focal epilepsy and intellectual disability syndrome is due to a mutation in TBC1D24. Am. J. Hum. Genet. 87: 371-375.
6. Online Mendelian Inheritance in Man, OMIM™. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 613577. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Fukuda, M. 2011. TBC proteins: GAPs for mammalian small GTPase Rab? Biosci. Rep. 31: 159-168.


## CHROMOSOMAL LOCATION

Genetic locus: TBC1D24 (human) mapping to 16p13.3.

## PRODUCT

TBC1D24 siRNA (h) is a pool of 3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TBC1D24 shRNA Plasmid (h): sc-93059-SH and TBC1D24 shRNA (h) Lentiviral Particles: sc-93059-V as alternate gene silencing products.

For independent verification of TBC1D24 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-93059A, sc-93059B and sc-93059C.

## 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TBC1D24 siRNA (h) is recommended for the inhibition of TBC1D24 expression in human 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 µM in 66 µl. 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.

## GENE EXPRESSION MONITORING

TBC1D24 (G-6): sc-390237 is recommended as a control antibody for monitoring of TBC1D24 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TBC1D24 gene expression knockdown using RT-PCR Primer: TBC1D24 (h)-PR: sc-93059-PR (20 µl, 595 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## 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.