

Tuba siRNA (h): sc-76775

BACKGROUND

Tuba, also known as DNMBP (Dynamin binding protein), is a 1,577 amino acid protein that localizes to a variety of locations within the cell, including the cytoplasm, cytoskeleton, cell junction and Golgi apparatus, and contains one BAR domain, one DH domain and six SH3 domains. Expressed in kidney, heart, lung, liver, brain, pancreas and skeletal muscle, Tuba functions as a scaffold protein that links Dynamin with Actin-regulating proteins and is thought to play a role in protein trafficking between the Golgi and the cell surface. Two isoforms of Tuba exist due to alternative splicing events. The gene encoding Tuba maps to human chromosome 10q24.2, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
2. Salazar, M.A., et al. 2003. Tuba, a novel protein containing bin/amphiphysin/Rvs and Dbl homology domains, links Dynamin to regulation of the Actin cytoskeleton. J. Biol. Chem. 278: 49031-49043.
3. Kuwano, R., et al. 2006. Dynamin-binding protein gene on chromosome 10q is associated with late-onset Alzheimer's disease. Hum. Mol. Genet. 15: 2170-2182.
4. Otani, T., et al. 2006. Cdc42 GEF Tuba regulates the junctional configuration of simple epithelial cells. J. Cell Biol. 175: 135-146.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611282. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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CHROMOSOMAL LOCATION

Genetic locus: DNMBP (human) mapping to 10q24.2.

PRODUCT

Tuba 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tuba shRNA Plasmid (h): sc-76775-SH and Tuba shRNA (h) Lentiviral Particles: sc-76775-V as alternate gene silencing products.

For independent verification of Tuba (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-76775A, sc-76775B and sc-76775C.

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

Tuba siRNA (h) is recommended for the inhibition of Tuba 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 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.

GENE EXPRESSION MONITORING

Tuba (MH-8): sc-135592 is recommended as a control antibody for monitoring of Tuba 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Tuba gene expression knockdown using RT-PCR Primer: Tuba (h)-PR: sc-76775-PR (20 μ l). 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.