SANTA CRUZ BIOTECHNOLOGY, INC.

# Tara siRNA (h): sc-76630

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*The Power to Question*

## BACKGROUND

Tara (Trio-associated repeat on Actin), also known as TRIOBP (TRIO and F-Actin-binding protein) or DFNB28, is a widely expressed protein with highest levels of expression in heart and placenta. Tara localizes to the nucleus and cytoplasm. It contains a Pleckstrin homology domain at the N-terminus and a coiled-coil region at the C-terminus. Tara binds to and interacts with Trio, TRF1 and F-Actin. Via these interactions, Tara plays a role in the development of neural tissue and the organization of the Actin cytoskeleton. Tara functions to stabilize F-Actin structures and therefore is also involved in the control of cell growth and motility. Mutations in the gene encoding this protein may result in autosomal recessive nonsyndromic sensorineural deafness type 28 (DFNB28). Five isoforms exist for Tara due to alternative splicing. Isoform 3, also known as the long isoform, is exclusively expressed in fetal retina, cochlea and brain.

## REFERENCES


1. Seipel, K., et al. 2001. Tara, a novel F-Actin binding protein, associates with the Trio guanine nucleotide exchange factor and regulates Actin cytoskeletal organization. J. Cell Sci. 114: 389-399.
2. Hirosawa, M., et al. 2001. Identification of novel transcribed sequences on human chromosome 22 by expressed sequence tag mapping. DNA Res. 8: 1-9.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609761. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Lan, J.P., et al. 2004. Isolation of Tara protein and its gene cloning. Zhejiang Da Xue Xue Bao Yi Xue Ban 33: 486-490.
5. Riazuddin, S., et al. 2005. Mutations in TRIOBP, which encodes a putative cytoskeletal-organizing protein, are associated with nonsyndromic recessive deafness. Am. J. Hum. Genet. 78: 137-143.
6. Shahin, H., et al. 2005. Mutations in a novel isoform of TRIOBP that encodes a filamentous-Actin binding protein are responsible for DFNB28 recessive nonsyndromic hearing loss. Am. J. Hum. Genet. 78: 144-152.


## CHROMOSOMAL LOCATION

Genetic locus: TRIOBP (human) mapping to 22q13.1.

## PRODUCT

Tara 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 Tara shRNA Plasmid (h): sc-76630-SH and Tara shRNA (h) Lentiviral Particles: sc-76630-V as alternate gene silencing products.

For independent verification of Tara (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-76630A, sc-76630B and sc-76630C.

## 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

Tara siRNA (h) is recommended for the inhibition of Tara 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

Tara (G-9): sc-377474 is recommended as a control antibody for monitoring of Tara 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 Tara gene expression knockdown using RT-PCR Primer: Tara (h)-PR: sc-76630-PR (20 µl). 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.