



## Tns4 siRNA (h): sc-76705

### BACKGROUND

The Tensin (Tns) family of proteins is involved in the maintenance of cellular structure by anchoring Actin filaments at the focal adhesion via F-Actin binding and capping activities. Tns proteins contain a Src homology 2 (SH2) domain and have the ability to be phosphorylated, suggesting an additional role in signal transduction cascades. These diverse characteristics indicate that Tns proteins may be important links between the cytoskeleton and signal transduction pathways. Tns4 (tensin 4), also known as CTEN, is a 715 amino acid protein that localizes to focal adhesions and contains one SH2 domain and one phosphatase tensin-type domain. Expressed in placenta and prostate, Tns4 binds to Actin filaments and is thought to be involved in cartilage development, cell migration and apoptosis, and may also play a role in linking signal transduction pathways to the cytoskeleton. Tns4 is subject to post-translational phosphorylation and is down-regulated in prostate cancer cells, suggesting a role in tumor suppression.

### REFERENCES

1. Bockholt, S.M. and Burridge, K. 1993. Cell spreading on extracellular matrix proteins induces tyrosine phosphorylation of tensin. *J. Biol. Chem.* 268: 14565-14567.
2. Lo, S.H., et al. 1994. Tensin: a potential link between the cytoskeleton and signal transduction. *Bioessays* 16: 817-823.
3. Lo, S.H., et al. 1994. Interactions of tensin with Actin and identification of its three distinct Actin-binding domains. *J. Cell Biol.* 125: 1067-1075.
4. Lo, S.H. and Lo, T.B. 2002. Cten, a COOH-terminal tensin-like protein with prostate restricted expression, is down-regulated in prostate cancer. *Cancer Res.* 62: 4217-4221.

### CHROMOSOMAL LOCATION

Genetic locus: TNS4 (human) mapping to 17q21.2.

### PRODUCT

Tns4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tns4 shRNA Plasmid (h): sc-76705-SH and Tns4 shRNA (h) Lentiviral Particles: sc-76705-V as alternate gene silencing products.

For independent verification of Tns4 (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-76705A, sc-76705B and sc-76705C.

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

### APPLICATIONS

Tns4 siRNA (h) is recommended for the inhibition of Tns4 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  $\mu$ M in 66  $\mu$ 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

Tns4 (3B8): sc-517073 is recommended as a control antibody for monitoring of Tns4 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 Tns4 gene expression knockdown using RT-PCR Primer: Tns4 (h)-PR: sc-76705-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

### SELECT PRODUCT CITATIONS

1. Liao, Y.C., et al. 2009. Up-regulation of C-terminal tensin-like molecule promotes the tumorigenicity of colon cancer through  $\beta$ -catenin. *Cancer Res.* 69: 4563-4566.

### 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) for detailed protocols and support products.