SANTA CRUZ BIOTECHNOLOGY, INC.

Tns3 siRNA (m): sc-63118

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 also contain a Src homology 2 (SH2) domain and have the ability to be phosphorylated, suggesting a role in signal transduction cascades. These diverse characteristics indicate that Tns proteins may be important links between the cytoskeleton and signal transduction pathways. Tns3, also known as TEM6 or TENS1, localizes to the focal adhesions of the plasma membrane. It is predominantly expressed in thyroid and placenta but can also be found in heart, liver, brain, prostate, pancreas, kidney, lung, skeletal muscle and white blood cells. Tns3 is essential for proper growth and development, as suggested by growth retardation and death in a number of $Tns3^{-/-}$ mice.

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. Interactions of tensin with Actin and identification of its three distinct Actin-binding domains. J. Cell Biol. 125: 1067-1075.
3. Lo, S.H., et al. 1994. Tensin: a potential link between the cytoskeleton and signal transduction. Bioessays 16: 817-823.
4. Chuang, J.Z., et al. 1995. Molecular cloning, expression, and mapping of the high affinity Actin-capping domain of chicken cardiac tensin. J. Cell Biol. 128: 1095-1109.
5. Haynie, D.T. and Ponting, C.P. 1996. The N-terminal domains of tensin and auxilin are phosphatase homologues. Protein Sci. 5: 2643-2646.
6. Cui, Y., et al. 2004. Epidermal growth factor modulates tyrosine phosphorylation of a novel tensin family member, Tensin3. Mol. Cancer Res. 2: 225-232.
7. Chiang, M.K., et al. 2005. Inactivation of tensin3 in mice results in growth retardation and postnatal lethality. Dev. Biol. 279: 368-377.
8. Maeda, I., et al. 2006. Tensin3 is a novel thyroid-specific gene. J. Mol. Endocrinol. 36: R1-R8.

CHROMOSOMAL LOCATION

Genetic locus: Tns3 (mouse) mapping to 11 A1.

PRODUCT

Tns3 siRNA (m) 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 Tns3 shRNA Plasmid (m): sc-63118-SH and Tns3 shRNA (m) Lentiviral Particles: sc-63118-V as alternate gene silencing products.

For independent verification of Tns3 (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-63118A, sc-63118B and sc-63118C.

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

Tns3 siRNA (m) is recommended for the inhibition of Tns3 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 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

Tns3 (C-2): sc-376367 is recommended as a control antibody for monitoring of Tns3 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 Tns3 gene expression knockdown using RT-PCR Primer: Tns3 (m)-PR: sc-63118-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.