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SANTA CRUZ BIOTECHNOLOGY, INC.

Tns2 siRNA (m): sc-154548

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Tns2, also known as TENC1 (tensin like C1 domain containing phosphatase), C1TEN or C1-TEN, is a 1,409 amino acid protein that localizes to the focal adhesions of the peripheral membrane. Expressed in heart, kidney, brain, thymus, spleen, liver, placenta, lung, skeletal muscle and small intestine, Tns2 is suggested to have phosphatase activity and may play a role in regulating cell motility and proliferation. Tns2 exists as six alternatively spliced isoforms and is encoded by a gene located on human chromosome 12q13.13.

REFERENCES

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2. Lo, S.H., Janmey, P.A., Hartwig, J.H. and Chen, L.B. 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., Weisberg, E. and Chen, L.B. 1994. Tensin: a potential link between the cytoskeleton and signal transduction. Bioessays 16: 817-823.
4. Chuang, J.Z., Lin, D.C. and Lin, S. 1995. Molecular cloning, expression, and mapping of the high affinity Actin-capping domain of chicken cardiac tensin. J. Cell Biol. 128: 1095-1109.
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6. McLaughlin, M., Kinnell, H.L., Anderson, R.A. and Telfer, E.E. 2014. Inhibition of phosphatase and tensin homologue (PTEN) in human ovary *in vitro* results in increased activation of primordial follicles but compromises development of growing follicles. Mol. Hum. Reprod. 20: 736-744.

CHROMOSOMAL LOCATION

Genetic locus: Tenc1 (mouse) mapping to 15 F3.

PRODUCT

Tns2 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 Tns2 shRNA Plasmid (m): sc-154548-SH and Tns2 shRNA (m) Lentiviral Particles: sc-154548-V as alternate gene silencing products.

For independent verification of Tns2 (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-154548A, sc-154548B and sc-154548C.

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

Tns2 siRNA (m) is recommended for the inhibition of Tns2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Tns2 gene expression knockdown using RT-PCR Primer: Tns2 (m)-PR: sc-154548-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.