SANTA CRUZ BIOTECHNOLOGY, INC.

Trio siRNA (h): sc-36724

BACKGROUND

Protein tyrosine phosphatases, or PTPs, are type I transmembrane proteins, membrane-associated proteins or proteins localized in nuclei. Examples of transmembrane PTPs are LAR, PTPα, PTPβ, PTPγ, PTPδ, PTPε, PTPζ, PTPκ and PTPμ. Transmembrane PTPs play diverse roles during development and in adult tissues. Immunodepletion studies have suggested LAR to be a regulator of Insulin receptor phosphorylation. Trio is a LAR-interacting protein that contains two functional guanine nuclear exchange factor (GEF) domains and a serine/threonine protein kinase (PSK) domain. One of the the Trio-GEF domains exhibits Rac-specific GEF activity while the other exibits Rho-specific GEF activity. The carboxy-terminal PSK domain is most similar to the PSK domains of the CaMK family.

REFERENCES

1. Ahmad, F., et al. 1995. Increased abundance of the receptor-type protein-tyrosine phosphatase LAR accounts for the elevated Insulin receptor dephosphorylating activity in adipose tissue of obese human subjects. J. Clin. Invest. 95: 2806-2812.
2. den Hertog, J., et al. 1995. Stimulation of receptor protein-tyrosine phosphatase α activity and phosphorylation by phorbol ester. Cell Growth Differ. 6: 303-307.
3. Zondag, G.C., et al. 1995. Homophilic interactions mediated by receptor tyrosine phosphatases μ and κ. A critical role for the novel extracellular MAM domain. J. Biol. Chem. 270: 14247-14250.
4. Milev, P., et al. 1995. Complex-type asparagine-linked oligosaccharides on phosphacan and protein-tyrosine phosphatase-ζ/β mediate their binding to neural cell adhesion molecules and tenascin. J. Biol. Chem. 270: 24650-24653.
5. Elson, A., et al. 1995. Protein-tyrosine phosphatase ε. An isoform specifically expressed in mouse mammary tumors initiated by v-Ha-Ras or Neu. J. Biol. Chem. 270: 26116-26122.
6. Brady-Kalnay, S.M., et al. 1995. Receptor protein tyrosine phosphatase PTPμ associates with cadherins and catenins *in vivo*. J. Cell Biol. 130: 977-986.

CHROMOSOMAL LOCATION

Genetic locus: TRIO (human) mapping to 5p15.2.

PRODUCT

Trio 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 Trio shRNA Plasmid (h): sc-36724-SH and Trio shRNA (h) Lentiviral Particles: sc-36724-V as alternate gene silencing products.

For independent verification of Trio (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-36724A, sc-36724B and sc-36724C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Trio gene expression knockdown using RT-PCR Primer: Trio (h)-PR: sc-36724-PR (20 µl, 441 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Boehm, M., et al. 2011. Major host factors involved in epithelial cell invasion of *Campylobacter jejuni:* role of Fibronectin, Integrin β1, FAK, Tiam1, and DOCK180 in activating Rho GTPase Rac1. Front. Cell. Infect. Microbiol. 1: 17.

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.