SANTA CRUZ BIOTECHNOLOGY, INC.

EPHEXIN siRNA (h): sc-94358

BACKGROUND

EPHEXIN, also known as NGEF (neuronal guanine nucleotide exchange factor), is a 710 amino acid protein that localizes to both the membrane and the cytoplasm and contains one SH3 domain, one PH domain and one DH domain. Expressed at high levels in brain and present at lower levels in lung tissue, EPHEXIN interacts with EphA4 and functions as a guanine nucleotide exchange factor (GEF) that is capable of activating Rho A, Rac 1 and Cdc42 and is thought to play a role in axon guidance and growth cone collapse. EPHEXIN is subject to Src-dependent phosphorylation, an event that increases the GEF activity of EPHEXIN toward Rho A. Human EPHEXIN, which exists as multiple alternatively spliced isoforms, shares a high degree of sequence homology with its mouse counterpart, suggesting a conserved role between species.

REFERENCES

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2. Shamah, S.M., et al. 2001. EphA receptors regulate growth cone dynamics through the novel guanine nucleotide exchange factor EPHEXIN. Cell 105: 233-244.
3. Schmucker, D. and Zipursky, S.L. 2001. Signaling downstream of Eph receptors and ephrin ligands. Cell 105: 701-704.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605991. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Sahin, M., et al. 2005. Eph-dependent tyrosine phosphorylation of EPHEXIN1 modulates growth cone collapse. Neuron 46: 191-204.
6. Egea, J., et al. 2005. Regulation of EphA4 kinase activity is required for a subset of axon guidance decisions suggesting a key role for receptor clustering in Eph function. Neuron 47: 515-528.
7. Zhang, Y., et al. 2007. Regulation of EPHEXIN1, a guanine nucleotide exchange factor of Rho family GTPases, by fibroblast growth factor receptor-mediated tyrosine phosphorylation. J. Biol. Chem. 282: 31103-31112.

CHROMOSOMAL LOCATION

Genetic locus: NGEF (human) mapping to 2q37.1.

PRODUCT

EPHEXIN 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 EPHEXIN shRNA Plasmid (h): sc-94358-SH and EPHEXIN shRNA (h) Lentiviral Particles: sc-94358-V as alternate gene silencing products.

For independent verification of EPHEXIN (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-94358A, sc-94358B and sc-94358C.

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

EPHEXIN siRNA (h) is recommended for the inhibition of EPHEXIN 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 EPHEXIN gene expression knockdown using RT-PCR Primer: EPHEXIN (h)-PR: sc-94358-PR (20 µl, 489 bp). 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.