SANTA CRUZ BIOTECHNOLOGY, INC.

plexin-A4 siRNA (h): sc-89871

BACKGROUND

Plexin-A4, also known as PLXNA4 or FAYV2820, is a 1,894 amino acid single-pass type I membrane protein that contains one sema domain, three PSI domains and four IPT/TIG domains. Belonging to a large family of semaphorin (SEMA) receptors, plexin-A4 forms a complex with neuropilin and, once complexed, can propagate SEMA3A-induced inhibitory signals into neurons and cells, possibly playing a role in early nerve development. Four isoforms of plexin-A4 exist due to alternative splicing events. The gene encoding plexin-A4 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Tamagnone, L., et al. 1999. Plexins are a large family of receptors for transmembrane, secreted, and GPI-anchored semaphorins in vertebrates. Cell 99: 71-80.
2. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604280. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Terman, J.R., et al. 2002. MICALs, a family of conserved flavoprotein oxidoreductases, function in plexin-mediated axonal repulsion. Cell 109: 887-900.
4. Waimey, K.E., et al. 2008. Plexin-A3 and plexin-A4 restrict the migration of sympathetic neurons but not their neural crest precursors. Dev. Biol. 315: 448-458.

CHROMOSOMAL LOCATION

Genetic locus: PLXNA4 (human) mapping to 7q32.3.

PRODUCT

plexin-A4 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 plexin-A4 shRNA Plasmid (h): sc-89871-SH and plexin-A4 shRNA (h) Lentiviral Particles: sc-89871-V as alternate gene silencing products.

For independent verification of plexin-A4 (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-89871A, sc-89871B and sc-89871C.

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

plexin-A4 siRNA (h) is recommended for the inhibition of plexin-A4 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 plexin-A4 gene expression knockdown using RT-PCR Primer: plexin-A4 (h)-PR: sc-89871-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.