



plexin-A4 siRNA (m): sc-152326

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 (mouse) mapping to 6 A3.3.

PRODUCT

plexin-A4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see plexin-A4 shRNA Plasmid (m): sc-152326-SH and plexin-A4 shRNA (m) Lentiviral Particles: sc-152326-V as alternate gene silencing products.

For independent verification of plexin-A4 (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-152326A, sc-152326B and sc-152326C.

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.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

plexin-A4 siRNA (m) is recommended for the inhibition of plexin-A4 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 μ M in 66 μ l. 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 (m)-PR: sc-152326-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.