SANTA CRUZ BIOTECHNOLOGY, INC.

Draxin siRNA (h): sc-88131

BACKGROUND

Draxin (dorsal repulsive axon guidance protein and Neucrin), also known as UNQ3119, neucrin, AGPA3119 or C1orf187, is a 349 amino acid secreted protein that is required of the development of the spinal cord and forebrain commissures. Draxin acts as a chemorepulsive guidance protein and directs commissural axons during development by repelling neurite outgrowth from the spinal cord. During development, Draxin modulates neural crest migration by reducing the polarization of these cells, leading to reduced velocity of migration and increased frequency of changing direction, leading to a net decrease in migrational distance. It acts as an antagonist of the Wnt signaling pathway by inhibiting the stabilization of cytosolic β-catenin via its interaction with LRP6. Draxin inhibits outgrowth from the olfactory bulb and likely contributes to the formation of the lateral olfactory tract.

REFERENCES

1. Miyake, A., et al. 2009. Neucrin is a novel neural-specific secreted antagonist to canonical Wnt signaling. Biochem. Biophys. Res. Commun. 390: 1051-1055.
2. Naser, I.B., et al. 2009. Analysis of a repulsive axon guidance molecule, Draxin, on ventrally directed axon projection in chick early embryonic midbrain. Dev. Biol. 332: 351-359.
3. Su, Y., et al. 2009. Draxin, an axon guidance protein, affects chick trunk neural crest migration. Dev. Growth Differ. 51: 787-796.
4. Islam, S.M., et al. 2009. Draxin, a repulsive guidance protein for spinal cord and forebrain commissures. Science 323: 388-393.
5. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612682. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Ahmed, G., et al. 2010. Olfactory bulb axonal outgrowth is inhibited by Draxin. Biochem. Biophys. Res. Commun. 398: 730-734.
7. Su, Y., et al. 2010. Draxin is involved in the proper development of the dI3 interneuron in chick spinal cord. Dev. Dyn. 239: 1654-1663.
8. Zhang, S., et al. 2010. Draxin, a repulsive axon guidance protein, is involved in hippocampal development. Neurosci. Res. 66: 53-61.

CHROMOSOMAL LOCATION

Genetic locus: DRAXIN (human) mapping to 1p36.22.

PRODUCT

Draxin siRNA (h) is a pool of 2 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 Draxin shRNA Plasmid (h): sc-88131-SH and Draxin shRNA (h) Lentiviral Particles: sc-88131-V as alternate gene silencing products.

For independent verification of Draxin (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-88131A and sc-88131B.

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

Draxin siRNA (h) is recommended for the inhibition of Draxin 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 Draxin gene expression knockdown using RT-PCR Primer: Draxin (h)-PR: sc-88131-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sato, Y., et al. 2018. Expression of Draxin in lung carcinomas. Acta Histochem. Cytochem. 51: 53-62.

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.