SANTA CRUZ BIOTECHNOLOGY, INC.

Slit3 siRNA (m): sc-42261

BACKGROUND

Secreted leucine-rich repeat-containing proteins 1-3 (Slit1-3) are secreted glycoproteins that influence axonal guidance and mediate normal neural development by acting as high-affinity signaling ligands for the repulsive guidance receptor, Roundabout (Robo). Within the developing central nervous system (CNS) of different vertebrate systems, Slit proteins are expressed in equivalent regions, suggesting a conserved function among vertebrate homologs. Slit is expressed in the midline of the central nervous system in both vertebrates and invertebrates, where it functions as a regulatory factor of mesodermal cell movement during gastrulation. Slit2 is a short range inhibitory guidance cue for retinal ganglion cell (RGC) axons that may mediate spatial progression of RGCs.

REFERENCES

1. Rothberg, J.M., et al. 1990. Slit: an extracellular protein necessary for development of midline glia and commissural axon pathways contains both EGF and LRR domains. Genes Dev. 4: 2169-2187.
2. Holmes, G.P., et al. 1998. Distinct but overlapping expression patterns of two vertebrate Slit homologs implies functional roles in CNS development and organogenesis. Mech. Dev. 79: 57-72.
3. Brose, K., et al. 1999. Slit proteins bind robo receptors and have an evolutionarily conserved role in repulsive axon guidance. Cell 96: 795-806.
4. Hu, H. 1999. Chemorepulsion of neuronal migration by Slit2 in the developing mammalian forebrain. Neuron 23: 703-711.
5. Yuan, W., et al. 1999. The mouse Slit family: secreted ligands for robo expressed in patterns that suggest a role in morphogenesis and axon guidance. Dev. Biol. 212: 290-306.
6. Niclou, S.P., et al. 2000. Slit2 is a repellent for retinal ganglion cell axons. J. Neurosci. 20: 4962-4974.
7. Erskine, L., et al. 2000. Retinal ganglion cell axon guidance in the mouse optic chiasm: expression and function of robos and Slits. J. Neurosci. 20: 4975-4982.

CHROMOSOMAL LOCATION

Genetic locus: Slit3 (mouse) mapping to 11 A4.

PRODUCT

Slit3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Slit3 shRNA Plasmid (m): sc-42261-SH and Slit3 shRNA (m) Lentiviral Particles: sc-42261-V as alternate gene silencing products.

For independent verification of Slit3 (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-42261A, sc-42261B and sc-42261C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Slit3 siRNA (m) is recommended for the inhibition of Slit3 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 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 Slit3 gene expression knockdown using RT-PCR Primer: Slit3 (m)-PR: sc-42261-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.