SANTA CRUZ BIOTECHNOLOGY, INC.

PSP siRNA (m): sc-41971

BACKGROUND

Neurotrophic factors are soluble proteins that are involved in the development and maintenance of the peripheral and central nervous systems. Glial cell line-derived neurotrophic factor (GDNF) and neurturin (NTN) are members of a family of neurotrophic factors that is distantly related to the TGFβ superfamily. A third member of this family, Persephin (PSP), is 40% identical to GDNF and NTN. PSP, like GDNF and NTN, promotes survival and inhibits degeneration of dopaminergic neurons. Unlike GDNF and NTN, however, PSP does not appear to support peripheral neurons. While PSP also plays a role in kidney development, as do GDNF and NTN, it does not promote enteric proliferation or survival. PSP is widely distributed throughout the nervous system, and it is thought to be of astroglial and neuronal origin. The signaling mechanism of PSP appears to be similar to that of GDNF and NTN, requiring the Ret receptor tyrosine kinase and a GPI-linked ligand-binding domain subunit.

REFERENCES

1. Shen, L., et al. 1997. Recent progress in studies of neurotrophic factors and their clinical implications. J. Mol. Med. 75: 637-644.
2. Pachnis, V., et al. 1998. Role of the RET signal transduction pathway in development of the mammalian enteric nervous system. Am. J. Physiol. 275: G183-G186.
3. Milbrandt, J., et al. 1998. Persephin, a novel neurotrophic factor related to GDNF and neurturin. Neuron 20: 245-253.
4. Heuckeroth, R.O., et al. 1998. Neuturin and GDNF promote proliferation and survival of enteric neuron and glial progenitors *in vitro*. Dev. Biol. 200: 116-129.
5. Jaszai, J., et al. 1998. GDNF-related factor persephin is widely distributed throughout the nervous system. J. Neurosci. Res. 53: 494-501.
6. Enokido, Y., et al. 1998. GFR α-4 and the tyrosine kinase Ret form a functional receptor complex for persephin. Curr. Biol. 8: 1019-1022.

CHROMOSOMAL LOCATION

Genetic locus: Pspn (mouse) mapping to 17 D.

PRODUCT

PSP 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 PSP shRNA Plasmid (m): sc-41971-SH and PSP shRNA (m) Lentiviral Particles: sc-41971-V as alternate gene silencing products.

For independent verification of PSP (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-41971A, sc-41971B and sc-41971C.

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 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

PSP siRNA (m) is recommended for the inhibition of PSP 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.

RESEARCH USE

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