SANTA CRUZ BIOTECHNOLOGY, INC.

DNER siRNA (h): sc-106901

BACKGROUND

DNER (Delta-notch-like EGF-related receptor), also known as Delta-notch-like EGF repeat-containing transmembrane protein, is a neuron-specific, atypical Notch ligand expressed in dendrites and cell bodies of neurons throughout the central nervous system. DNER contains ten extracellular EGF-like domains that are highly homologous to those of the Notch ligand, Delta. In the cerebellum, DNER is predominantly expressed in Purkinje cells. DNER mediates neuron-glia interaction during astrocytogenesis through a direct interaction with Notch 1 at Purkinje cell/Bergmann glia contacts. This interaction activates a Deltex-dependent Notch signaling pathway in Bergmann glia and may regulate Bergmann glial morphogenesis. DNER is crucial for the functional and morphological maturation of Bergmann glia. DNER-knockout mice are characterized by motor discoordination and cerebellum retardation in morphogenesis.

REFERENCES

1. Eiraku, M., et al. 2002. Delta/notch-like epidermal growth factor (EGF)-related receptor, a novel EGF-like repeat-containing protein targeted to dendrites of developing and adult central nervous system neurons. J. Biol. Chem. 277: 25400-25407.
2. Eiraku, M., et al. 2005. DNER acts as a neuron-specific Notch ligand during Bergmann glial development. Nat. Neurosci. 8: 873-880.
3. Subramanian, S., et al. 2005. The gene expression profile of extraskeletal myxoid chondrosarcoma. J. Pathol. 206: 433-444.
4. Tohgo, A., et al. 2006. Impaired cerebellar functions in mutant mice lacking DNER. Mol. Cell. Neurosci. 31: 326-333.
5. Saito, S.Y., et al. 2006. DNER as key molecule for cerebellar maturation. Cerebellum 5: 227-231.
6. Katoh, M., et al. 2006. Notch signaling in gastrointestinal tract (review). Int. J. Oncol. 30: 247-251.
7. Souilhol, C., et al. 2006. Nas transgenic mouse line allows visualization of Notch pathway activity *in vivo*. Genesis 44: 277-286.
8. Patten, B.A., et al. 2006. Notch1 signaling regulates radial glia differentiation through multiple transcriptional mechanisms. J. Neurosci. 26: 3102-3108.

CHROMOSOMAL LOCATION

Genetic locus: DNER (human) mapping to 2q36.3.

PRODUCT

DNER 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 DNER shRNA Plasmid (h): sc-106901-SH and DNER shRNA (h) Lentiviral Particles: sc-106901-V as alternate gene silencing products.

For independent verification of DNER (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-106901A, sc-106901B and sc-106901C.

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

DNER siRNA (h) is recommended for the inhibition of DNER 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.

GENE EXPRESSION MONITORING

DNER (YY-7): sc-100305 is recommended as a control antibody for monitoring of DNER gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DNER gene expression knockdown using RT-PCR Primer: DNER (h)-PR: sc-106901-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.