SANTA CRUZ BIOTECHNOLOGY, INC.

Na^+ CP type IIβ siRNA (m): sc-149783

BACKGROUND

Voltage-gated sodium channels are selective ion channels that regulate the permeability of sodium ions in excitable cells. During the propagation of an action potential, sodium channels allow an influx of sodium ions, which rapidly depolarizes the cell. Na^+ CP type IIβ (sodium channel, voltage-gated, type II, β), also known as SCN2B, is a 215 amino acid single-pass type I membrane protein that plays a critical role in the expression and assembly of the heterotrimeric complex of the sodium channel and interacts with Tenascin-R to influence the clustering and regulation of sodium channels at nodes of Ranvier. Expressed specifically in brain, Na^+ CP type IIβ contains one Ig-like C2-type (immunoglobulin-like) domain and is encoded by a gene that maps to human chromosome 11q23.3 and mouse chromosome 9 A5.2.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Scn2b (mouse) mapping to 9 A5.2.

PROTOCOLS

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

PRODUCT

Na^+ CP type IIβ siRNA (m) 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 Na^+ CP type IIβ shRNA Plasmid (m): sc-149783-SH and Na^+ CP type IIβ shRNA (m) Lentiviral Particles: sc-149783-V as alternate gene silencing products.

For independent verification of Na^+ CP type IIβ (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-149783A and sc-149783B.

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

Na^+ CP type IIβ siRNA (m) is recommended for the inhibition of Na^+ CP type IIβ 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 Na^+ CP type IIβ gene expression knockdown using RT-PCR Primer: Na^+ CP type IIβ (m)-PR: sc-149783-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.