SANTA CRUZ BIOTECHNOLOGY, INC.

connexin 29 siRNA (m): sc-62137

BACKGROUND

Connexin 29 belongs to the connexin family and is a member of the ε-type subfamily. Connexin 29 is a membrane bound, multi-pass protein also known as gap junction ε-1 protein. A connexon, consisting of connexin hexamers, is a membrane bound structure that is integral in the formation of a gap junction. One gap junction consists of a cluster of closely packed pairs of transmembrane channels, the connexons, through which materials of low molecular weight diffuse from one cell to a neighboring cell. Connexin 29 expression is restricted to the central nervous system and is present in brain, spinal cord, and sciatic nerve samples. It has been suggested that connexin 29 in the mature CNS contributes minimally to gap junctional intercellular communication in oligodendrocyte cell bodies. Rather, connexin 29 is targeted to myelin where it, along with connexin 32, may contribute to connexin-mediated communication between adjacent layers of uncompacted myelin.

REFERENCES

1. Altevogt, B.M., et al. 2002. Connexin 29 is uniquely distributed within myelinating glial cells of the central and peripheral nervous systems. J. Neurosci. 22: 6458-6470.
2. Nagy, J.I., et al. 2003. Connexin 29 and connexin 32 at oligodendrocyte and astrocyte gap junctions and in myelin of the mouse central nervous system. J. Comp. Neurol. 464: 356-370.
3. Li, X., et al. 2004. Connexin 47, connexin 29 and connexin 32 co-expression in oligodendrocytes and Cx47 association with zonula occludens-1 (ZO-1) in mouse brain. Neuroscience 126: 611-630.
4. Kleopa, K.A., et al. 2004. Unique distributions of the gap junction proteins connexin 29, connexin 32, and connexin 47 in oligodendrocytes. Glia 47: 346-357.
5. Yang, J.J., et al. 2005. Expression patterns of connexin 29 (GJE1) in mouse and rat cochlea. Biochem. Biophys. Res. Commun. 338: 723-728.
6. Li, J., et al. 2006. Analysis of connexin expression during mouse Schwann cell development identifies connexin 29 as a novel marker for the transition of neural crest to precursor cells. Glia 55: 93-103.

CHROMOSOMAL LOCATION

Genetic locus: Gjc3 (mouse) mapping to 5 G2.

PRODUCT

connexin 29 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 connexin 29 shRNA Plasmid (m): sc-62137-SH and connexin 29 shRNA (m) Lentiviral Particles: sc-62137-V as alternate gene silencing products.

For independent verification of connexin 29 (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-62137A, sc-62137B and sc-62137C.

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

connexin 29 siRNA (m) is recommended for the inhibition of connexin 29 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 connexin 29 gene expression knockdown using RT-PCR Primer: connexin 29 (m)-PR: sc-62137-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.