SANTA CRUZ BIOTECHNOLOGY, INC.

IGSF4D siRNA (m): sc-146191

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The Power to Question

BACKGROUND

Ig (immunoglobulin) superfamily members exhibit functional characteristics including immune responses, growth factor signaling and cell adhesion. IGSF4D (Ig superfamily member 4D) is also known as CADM2 (cell adhesion molecule 2), NecI-3 (nectin-like protein 3) or synCAM2 and is a 435 amino acid protein that is a member of the nectin family. IGSF4D contains two C2-type domains and one V-type domain, which are characteristic of the nectin family and are thought to function in molecular recognition. IGSF4D is expressed in many tissues, including brain, where it is detected in the nervous system, specifically in myelinated axons and ependymal cells. IGSF4D is localized to the plasma membrane as a single-pass membrane protein and is expressed as three isoforms. IGSF4D functions in the regulation of cell-cell adhesion by homophilic and heterophilic interactions leading to cell aggregation. These interactions are also important for neuron-neuron or neuron-glia associations, which are important for the development and function of the central nervous system. IGSF4D is downregulated in lung cancer, suggesting a possible role in tumor suppression.

REFERENCES

1. Suzu, S., Hayashi, Y., Harumi, T., Nomaguchi, K., Yamada, M., Hayasawa, H. and Motoyoshi, K. 2002. Molecular cloning of a novel immunoglobulin superfamily gene preferentially expressed by brain and testis. Biochem. Biophys. Res. Commun. 296: 1215-1221.
2. Katoh, M. and Katoh, M. 2004. Identification and characterization of human TMEM25 and mouse Tmem25 genes in silico. Oncol. Rep. 12: 429-433.
3. Biederer, T. 2006. Bioinformatic characterization of the SynCAM family of immunoglobulin-like domain-containing adhesion molecules. Genomics 87: 139-150.
4. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609938. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Pellissier, F., Gerber, A., Bauer, C., Ballivet, M. and Ossipow, V. 2007. The adhesion molecule NecI-3/SynCAM-2 localizes to myelinated axons, binds to oligodendrocytes and promotes cell adhesion. BMC Neurosci. 8: 90.
6. Brakeman, P.R., Liu, K.D., Shimizu, K., Takai, Y. and Mostov, K.E. 2009. Nectin proteins are expressed at early stages of nephrogenesis and play a role in renal epithelial cell morphogenesis. Am. J. Physiol. Renal Physiol. 296: F564-F574.

CHROMOSOMAL LOCATION

Genetic locus: Cadm2 (mouse) mapping to 16 C1.3.

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.

PRODUCT

IGSF4D 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 IGSF4D shRNA Plasmid (m): sc-146191-SH and IGSF4D shRNA (m) Lentiviral Particles: sc-146191-V as alternate gene silencing products.

For independent verification of IGSF4D (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-146191A, sc-146191B and sc-146191C.

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

IGSF4D siRNA (m) is recommended for the inhibition of IGSF4D 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 IGSF4D gene expression knockdown using RT-PCR Primer: IGSF4D (m)-PR: sc-146191-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.