SANTA CRUZ BIOTECHNOLOGY, INC.

IGSF11 siRNA (h): sc-77879

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The Power to Question

BACKGROUND

IGSF11 (immunoglobulin superfamily, member 11) is also known as BTIGSF (brain and testis-specific immunoglobulin superfamily protein) or VSIG3 (V-set and immunoglobulin domain-containing protein 3) and is a 431 amino acid protein that is expressed as three isoforms. IGSF11 is highly expressed in testis and ovary and is also expressed in brain, kidney and skeletal muscle, localized to the cellular membrane as a single-pass membrane protein. IGSF11 is an immunoglobulin with V-type and C2-type domains that function in molecular recognition. When IGSF11 is in the *trans* position, it plays an important role in cell-cell adhesion via both homophilic and heterophilic interactions with other molecules. These cell–cell interactions are also thought to be important for neuronal cell interactions, such as neuron–neuron or neuron–glia interactions, which are important for the development and function of the central nervous system. In addition, IGSF11 might also be involved interactions between Sertoli cells and spermatocytes, which are important associations during spermatogenesis. The IGSF11 gene is commonly upregulated in gastric cancer and IGSF11 is highly expressed in many types of human tumors, indicating that it may be useful as a target for immunotherapy.

REFERENCES

1. Suzu, S., et al. 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., et al. 2003. IGSF11 gene, frequently up-regulated in intestinal-type gastric cancer, encodes adhesion molecule homologous to CXADR, FLJ22415 and ESAM. Int. J. Oncol. 23: 525-531.
3. Raschperger, E., et al. 2004. CLMP, a novel member of the CTX family and a new component of epithelial tight junctions. J. Biol. Chem. 279: 796-804.
4. Watanabe, T., et al. 2005. Identification of immunoglobulin superfamily 11 (IGSF11) as a novel target for cancer immunotherapy of gastrointestinal and hepatocellular carcinomas. Cancer Sci. 96: 498-506.
5. Harada, H., et al. 2005. BT-IgSF, a novel immunoglobulin superfamily protein, functions as a cell adhesion molecule. J. Cell. Physiol. 204: 919-926.
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CHROMOSOMAL LOCATION

Genetic locus: IGSF11 (human) mapping to 3q13.32.

PRODUCT

IGSF11 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 IGSF11 shRNA Plasmid (h): sc-77879-SH and IGSF11 shRNA (h) Lentiviral Particles: sc-77879-V as alternate gene silencing products.

For independent verification of IGSF11 (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-77879A, sc-77879B and sc-77879C.

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

IGSF11 siRNA (h) is recommended for the inhibition of IGSF11 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

IGSF11 (H-9): sc-393816 is recommended as a control antibody for monitoring of IGSF11 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IGSF11 gene expression knockdown using RT-PCR Primer: IGSF11 (h)-PR: sc-77879-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.