SANTA CRUZ BIOTECHNOLOGY, INC.

FLRT3 siRNA (h): sc-75038

BACKGROUND

FLRT3 (Fibronectin leucine-rich transmembrane protein 3), also known as KIAA1469, is a 649 amino acid single-pass type I membrane protein that contains one Fibronectin type-III domain and ten leucine-rich repeats and belongs to the Fibronectin leucine-rich transmembrane protein (FLRT) family. Expressed in heart, liver, lung, kidney, pancreas, brain, placenta and skeletal muscle, FLRT3 is thought to be involved in receptor signaling events and may play a role in both cell adhesion and neurite outgrowth. Defects in the gene encoding mouse FLRT3 may lead to ventral closure, headfold fusion and endoderm migration defects, suggesting that FLRT3 is important for proper cell differentiation and development. FLRT3 exists as multiple alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 20.

REFERENCES

1. Lacy, S.E., et al. 1999. Identification of FLRT1, FLRT2, and FLRT3: a novel family of transmembrane leucine-rich repeat proteins. Genomics 62: 417-426.
2. Tsuji, L., et al. 2004. FLRT3, a cell surface molecule containing LRR repeats and a FNIII domain, promotes neurite outgrowth. Biochem. Biophys. Res. Commun. 313: 1086-1091.
3. Robinson, M., et al. 2004. FLRT3 is expressed in sensory neurons after peripheral nerve injury and regulates neurite outgrowth. Mol. Cell. Neurosci. 27: 202-214.
4. Böttcher, R.T., et al. 2004. The transmembrane protein XFLRT3 forms a complex with FGF receptors and promotes FGF signalling. Nat. Cell Biol. 6: 38-44.
5. Haines, B.P., et al. 2006. Regulated expression of FLRT genes implies a functional role in the regulation of FGF signalling during mouse development. Dev. Biol. 297: 14-25.
6. Karaulanov, E.E., et al. 2006. A role for Fibronectin-leucine-rich transmembrane cell-surface proteins in homotypic cell adhesion. EMBO Rep. 7: 283-290.

CHROMOSOMAL LOCATION

Genetic locus: FLRT3 (human) mapping to 20p12.1.

PRODUCT

FLRT3 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 FLRT3 shRNA Plasmid (h): sc-75038-SH and FLRT3 shRNA (h) Lentiviral Particles: sc-75038-V as alternate gene silencing products.

For independent verification of FLRT3 (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-75038A, sc-75038B and sc-75038C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

FLRT3 siRNA (h) is recommended for the inhibition of FLRT3 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

FLRT3 (A-3): sc-514482 is recommended as a control antibody for monitoring of FLRT3 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 FLRT3 gene expression knockdown using RT-PCR Primer: FLRT3 (h)-PR: sc-75038-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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