SANTA CRUZ BIOTECHNOLOGY, INC.

FGFR-5 siRNA (m): sc-39968

BACKGROUND

Acidic and basic fibroblast growth factors (FGFs) are members of a family of multifunctional polypeptide growth factors that stimulate proliferation of cells of mesenchymal, epithelial and neuro-ectodermal origin. Like other growth factors, FGFs act by binding and activating specific cell surface receptors. A total of six members of the FGF receptor family have been identified and cloned. These include the Flg receptor (FGFR-1), the Bek receptor (FGFR-2) and FGFR-3-6. These receptors usually contain an extracellular ligand-binding region containing three immunoglobulin-like domains, a transmembrane domain and a cytoplasmic tyrosine kinase domain. However, FGFR-5 lacks the cytoplasmic kinase domain. FGFR-5 is expressed in a broad range of tissues, including kidney, brain and lung. It is preferentially expressed in pancreas, where it may play a role in the regulation of some pancreatic function.

REFERENCES

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2. Rifkin, D.B., et al. 1989. Recent developments in the cell biology of fibroblast growth factor. J. Cell Biol. 109: 1-6.
3. Dionne, C.A., et al. 1990. Cloning and expression of two distinct high-affinity receptors cross-reacting with acidic and basic fibroblast growth factors. EMBO J. 9: 2685-2692.
4. Keegan, K., et al. 1991. Isolation of an additional member of the fibroblast growth factor receptor family, FGFR-3. Proc. Natl. Acad. Sci. USA 88: 1095-1099.
5. Holtrich, U., et al. 1991. Two additional protein-tyrosine kinases expressed in human lung: fourth member of the fibroblast growth factor receptor family and an intracellular protein-tyrosine kinase. Proc. Natl. Acad. Sci. USA 88: 10411-10415.
6. Mansukhani, A., et al. 1992. Characterization of the murine Bek fibroblast growth factor (FGF) receptor: activation by three members of the FGF family and requirement for heparin. Proc. Natl. Acad. Sci. USA 89: 3305-3309.
7. Leelayuwat, C., et al. 1996. The primate MHC contains sequences related to the fibroblast growth factor receptor gene family. Tissue Antigens 48: 59-64.
8. Kim, I., et al. 2001. A novel fibroblast growth factor receptor-5 preferentially expressed in the pancreas. Biochim. Biophys. Acta 1518: 152-156.
9. Sleeman, M., et al. 2001. Identification of a new fibroblast growth factor receptor, FGFR-5. Gene 271: 171-82.

CHROMOSOMAL LOCATION

Genetic locus: Fgfrl1 (mouse) mapping to 5 F.

PROTOCOLS

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

PRODUCT

FGFR-5 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 FGFR-5 shRNA Plasmid (m): sc-39968-SH and FGFR-5 shRNA (m) Lentiviral Particles: sc-39968-V as alternate gene silencing products.

For independent verification of FGFR-5 (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-39968A, sc-39968B and sc-39968C.

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

FGFR-5 siRNA (m) is recommended for the inhibition of FGFR-5 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 FGFR-5 gene expression knockdown using RT-PCR Primer: FGFR-5 (m)-PR: sc-39968-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.