

# FGF-15 siRNA (m): sc-39473

## 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 neuroectodermal origin. Like other growth factors, FGFs act by binding and activating specific cell surface receptors. These receptors usually contain an extracellular ligand-binding region containing three immunoglobulin-like domains, a transmembrane domain and a cytoplasmic tyrosine kinase domain. Fibroblast growth factor-15 (FGF-15), a secreted protein expressed mainly in the developing brain, is important for cell division and patterning regulation in specific embryonic brain regions.

## REFERENCES

1. Rifkin, D.B., et al. 1989. Recent developments in the cell biology of fibroblast growth factor. *J. Cell Biol.* 109: 1-6.
2. 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.
3. 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.
4. Gimeno, L., et al. 2002. Analysis of FGF-15 expression pattern in the mouse neural tube. *Brain Res. Bull.* 57: 297-299.
5. Ishibashi, M., et al. 2002. A Sonic hedgehog-dependent signaling relay regulates growth of diencephalic and mesencephalic primordia in the early mouse embryo. *Development* 129: 4807-4819.

## CHROMOSOMAL LOCATION

Genetic locus: Fgf15 (mouse) mapping to 7 F5.

## PRODUCT

FGF-15 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 FGF-15 shRNA Plasmid (m): sc-39473-SH and FGF-15 shRNA (m) Lentiviral Particles: sc-39473-V as alternate gene silencing products.

For independent verification of FGF-15 (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-39473A, sc-39473B and sc-39473C.

## 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

FGF-15 siRNA (m) is recommended for the inhibition of FGF-15 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.

## GENE EXPRESSION MONITORING

FGF-15 (D-9): sc-514647 is recommended as a control antibody for monitoring of FGF-15 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 FGF-15 gene expression knockdown using RT-PCR Primer: FGF-15 (m)-PR: sc-39473-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Uchiyama, K., et al. 2010. Carbon monoxide enhance colonic epithelial restitution via FGF15 derived from colonic myofibroblasts. *Biochem. Biophys. Res. Commun.* 391: 1122-1126.
2. Zhang, Z., et al. 2019. Downregulation of microRNA-302b-3p relieves oxygen-glucose deprivation/re-oxygenation induced injury in murine hippocampal neurons through up-regulating Nrf2 signaling by targeting fibroblast growth factor 15/19. *Chem. Biol. Interact.* 309: 108705.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.