SANTA CRUZ BIOTECHNOLOGY, INC.

FGF-BP siRNA (m2): sc-62315

BACKGROUND

Fibroblast growth factors (FGFs) represent a family of over 20 distinct proteins that are ubiquitously expressed in mammalian systems. FGFs are influential in development, adult tissue homeostasis, angiogenesis and cancer progression. Fibroblast growth factor binding protein, known as FGF-BP, is a secreted protein that binds FGF-1 and FGF-2 and is involved in mobilization and activation of FGFs from the extracellular matrix (ECM). Normal adult human tissues have low levels of FGF-BP expression whereas its expression is significantly elevated in various tumors, including head, neck, skin, cervical, and lung squamous cell carcinomas. FGF-BP expression is up-regulated during early phases of tumorigenesis, indicating that the role of FGF-BP in angiogenesis is a critical early step in the development and progression of tumors. Decrease in the growth and angiogenesis of xenograft tumors in mice parallels a reduction in FGF-BP levels, suggesting that tumors can utilize FGF-BP as an angiogenic switch molecule. C/EBP and AP-1 are the main promoter elements required for activation of FGF-BP in response to serum and EGF, respectively.

REFERENCES

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2. Tassi, E., Al-Attar, A., Aigner, A., Swift, M.R., McDonnell, K., Karavanov, A. and Wellstein, A. 2001. Enhancement of fibroblast growth factor (FGF) activity by an FGF-binding protein. J. Biol. Chem. 276: 40247-40253.
3. Harris, V.K., Kagan, B.L., Ray, R., Coticchia, C.M., Liaudet-Coopman, E.D., Wellstein, A. and Tate Riegel, A. 2001. Serum induction of the fibroblast growth factor-binding protein (FGF-BP) is mediated through ERK and p38 MAP kinase activation and C/EBP-regulated transcription. Oncogene 20: 1730-1738.
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5. Mongiat, M., Otto, J., Oldershaw, R., Ferrer, F., Sato, J.D. and Iozzo, R.V. 2001. Fibroblast growth factor-binding protein is a novel partner for perlecan protein core. J. Biol. Chem. 276: 10263-10271.
6. Aigner, A., Butscheid, M., Kunkel, P., Krause, E., Lamszus, K., Wellstein, A. and Czubayko, F. 2001. An FGF-binding protein (FGF-BP) exerts its biological function by parallel paracrine stimulation of tumor cell and endothelial cell proliferation through FGF-2 release. Int. J. Cancer 92: 510-517.

CHROMOSOMAL LOCATION

Genetic locus: Fgfbp1 (mouse) mapping to 5 B3.

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

FGF-BP siRNA (m2) 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-BP shRNA Plasmid (m2): sc-62315-SH and FGF-BP shRNA (m2) Lentiviral Particles: sc-62315-V as alternate gene silencing products.

For independent verification of FGF-BP (m2) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62315A, sc-62315B and sc-62315C.

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-BP siRNA (m2) is recommended for the inhibition of FGF-BP 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-BP (4912Z): sc-73991 is recommended as a control antibody for monitoring of FGF-BP 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FGF-BP gene expression knockdown using RT-PCR Primer: FGF-BP (m2)-PR: sc-62315-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.