SANTA CRUZ BIOTECHNOLOGY, INC.

FOP siRNA (m): sc-75051

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The Power to Question

BACKGROUND

FOP, also known as FGFR1OP (FGFR1 oncogene partner), is a 399 amino acid protein that localizes to the centrosome and contains one LisH domain. Expressed ubiquitously with highest expression in kidney, heart, muscle, colon, liver, testis and pancreas, FOP functions as a homodimer that interacts with EB1 and CEP350 and is essential for anchoring microtubules to centrosomes. Chromosomal aberrations that involve the FOP gene are associated with the pathogenesis of stem cell myeloproliferative disorder (MPD), a condition that is characterized by eosinophilia and myeloid hyperplasia and ultimately leads to acute myeloid leukemia. FOP is expressed as multiple isoforms that are produced by alternative splicing events.

REFERENCES

1. Popovici, C., et al. 1999. The t(6;8)(q27;p11) translocation in a stem cell myeloproliferative disorder fuses a novel gene, FOP, to fibroblast growth factor receptor 1. Blood 93: 1381-1389.
2. Reither, A., et al. 1999. The 8p11 myeloproliferative syndrome. Med. Klin. 94: 207-210.
3. Guasch, G., et al. 2001. 8p12 stem cell myeloproliferative disorder: the FOP-fibroblast growth factor receptor 1 fusion protein of the t(6;8) translocation induces cell survival mediated by mitogen-activated protein kinase and phosphatidylinositol 3-kinase/Akt/mTOR pathways. Mol. Cell. Biol. 21: 8129-8142.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 605392. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Guasch, G., et al. 2004. FOP-FGFR1 tyrosine kinase, the product of a t(6;8) translocation, induces a fatal myeloproliferative disease in mice. Blood 103: 309-312.
6. Mikolajka, A., et al. 2006. Structure of the N-terminal domain of the FOP (FGFR1OP) protein and implications for its dimerization and centrosomal localization. J. Mol. Biol. 359: 863-875.

CHROMOSOMAL LOCATION

Genetic locus: Fgfr1op (mouse) mapping to 17 A1.

PRODUCT

FOP 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 FOP shRNA Plasmid (m): sc-75051-SH and FOP shRNA (m) Lentiviral Particles: sc-75051-V as alternate gene silencing products.

For independent verification of FOP (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-75051A, sc-75051B and sc-75051C.

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

FOP siRNA (m) is recommended for the inhibition of FOP 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

FOP (B-1): sc-374340 is recommended as a control antibody for monitoring of FOP 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 FOP gene expression knockdown using RT-PCR Primer: FOP (m)-PR: sc-75051-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.