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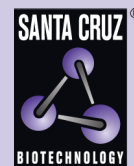
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fzr siRNA (h): sc-44349



The Power to Question

BACKGROUND

Fizzy-related protein, known as *fzr*, is a conserved eukaryotic gene that has been recently identified as a 7WD domain family member and is implicated in cell cycle regulation of *Drosophila* and yeast. Retroviral overexpression of *fzr* in B-lymphoma cells reduces tumor formation. *Fzr* overexpression increases B-lymphoma cell susceptibility to natural killer cell (NK) cytotoxicity. *Fzr* has been implicated in a new category of genes which suppress B-cell tumorigenesis. Current research suggests a novel role for *fzr* in the target cell interaction with NK cells. *Fzr* also negatively regulates the levels of cyclins A, B and B3. Loss of *fzr* causes progression through an extra division cycle in the epidermis and inhibition of endoreduplication in the salivary gland, in addition to failure of cyclin removal. Conversely, premature *fzr* overexpression down-regulates mitotic cyclins, inhibits mitosis and transforms mitotic cycles into endoreduplication cycles.

REFERENCES

1. Sigrist, S.J., et al. 1997. *Drosophila* fizzy-related downregulates mitotic cyclins and is required for cell proliferation arrest and entry into endocycles. *Cell* 4: 671-681.
2. Inbal, N., et al. 1999. The mammalian fizzy and fizzy-related genes are regulated at the transcriptional and post-transcriptional levels. *FEBS Lett.* 3: 350-354.
3. Wang, C.X., et al. 2000. Overexpression of murine fizzy-related (*fzr*) increases natural killer cell-mediated cell death and suppresses tumor growth. *Blood* 1: 259-263.

CHROMOSOMAL LOCATION

Genetic locus: *FZR1* (human) mapping to 19p13.3.

PRODUCT

fzr 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see *fzr* shRNA Plasmid (h): sc-44349-SH and *fzr* shRNA (h) Lentiviral Particles: sc-44349-V as alternate gene silencing products.

For independent verification of *fzr* (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-44349A, sc-44349B and sc-44349C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

fzr siRNA (h) is recommended for the inhibition of *fzr* 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 μ M in 66 μ l. 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

fzr (DCS-266): sc-56312 is recommended as a control antibody for monitoring of *fzr* 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 *fzr* gene expression knockdown using RT-PCR Primer: *fzr* (h)-PR: sc-44349-PR (20 μ l, 542 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Huang, K.T., et al. 2012. Estrogen and progesterone regulate p27kip1 levels via the ubiquitin-proteasome system: pathogenic and therapeutic implications for endometrial cancer. *PLoS ONE* 7: e46072.
2. Pavlides, S.C., et al. 2016. TGF- β activates APC through Cdh1 binding for Cks1 and Skp2 proteasomal destruction stabilizing p27^{kip1} for normal endometrial growth. *Cell Cycle* 15: 931-947.

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.