SANTA CRUZ BIOTECHNOLOGY, INC.

fzr siRNA (m): sc-145283

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 downregulates 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.
4. Yudkovsky, Y., et al. 2000. Phosphorylation of Cdc20/fizzy negatively regulates the mammalian cyclosome/APC in the mitotic checkpoint. Biochem. Biophys. Res. Commun. 2: 299-304.
5. Zur, A., et al. 2001. Securin degradation is mediated by fzy and fzr, and is required for complete chromatid separation but not for cytokinesis. EMBO J. 4: 792-801.

CHROMOSOMAL LOCATION

Genetic locus: Fzr1 (mouse) mapping to 10 C1.

PRODUCT

fzr siRNA (m) is a target-specific 19-25 nt siRNA 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 fzr shRNA Plasmid (m): sc-145283-SH and fzr shRNA (m) Lentiviral Particles: sc-145283-V as alternate gene silencing products.

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.

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

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

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-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 fzr gene expression knockdown using RT-PCR Primer: fzr (m)-PR: sc-145283-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.