SANTA CRUZ BIOTECHNOLOGY, INC.

Flightless I siRNA (h): sc-35386

BACKGROUND

The *Drosophila melanogaster* Flightless I gene is required for normal cellularization of the syncytial blastoderm in early embryogenesis and in the structural organization of indirect flight muscle. The Flightless I protein contains an Actin-binding domain with homology to the gelsolin family and is likely to be involved in Actin cytoskeletal rearrangements. Flightless I also contains an N-terminal leucine-rich repeat protein-protein interaction domain. The Flightless I protein localizes predominantly to the nucleus and translocates to the cytoplasm following serum stimulation. In cells stimulated to migrate, the Flightless I protein co-localizes with β-Tubulin- and Actin-based structures. The human FLI gene is mapped within the Smith-Magenis microdeletion region of chromosome 17 at 17p11.2. Smith-Magenis syndrome is characterized by short stature, brachydactyly, developmental delay, dysmorphic features, sleep disturbances and behavioral problems.

REFERENCES

1. Fong, K.S. and de Couet, H.G. 1999. Novel proteins interacting with the leucine-rich repeat domain of human Flightless I identified by the yeast two-hybrid system. Genomics 58: 146-157.
2. Campbell, H.D., et al. 2000. Fliih, the murine homologue of the *Drosophila melanogaster* Flightless I gene: nucleotide sequence, chromosomal mapping and overlap with Llglh. DNA Seq. 11: 29-40.
3. Davy, D.A., et al. 2001. The Flightless I protein co-localizes with Actin- and microtubule-based structures in motile Swiss 3T3 fibroblasts: evidence for the involvement of PI 3-kinase and Ras-related small GTPases. J. Cell Sci. 114: 549-562.
4. Campbell, H.D., et al. 2002. Fliih, a gelsolin-related cytoskeletal regulator essential for early mammalian embryonic development. Mol. Cell. Biol. 22: 3518-3526.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600362. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: FLII (human) mapping to 17p11.2.

PRODUCT

Flightless I 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Flightless I shRNA Plasmid (h): sc-35386-SH and Flightless I shRNA (h) Lentiviral Particles: sc-35386-V as alternate gene silencing products.

For independent verification of Flightless I (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-35386A, sc-35386B and sc-35386C.

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

Flightless I siRNA (h) is recommended for the inhibition of Flightless I 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 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

Flightless I (116.40): sc-21716 is recommended as a control antibody for monitoring of Flightless I 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 Flightless I gene expression knockdown using RT-PCR Primer: Flightless I (h)-PR: sc-35386-PR (20 µl, 482 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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