SANTA CRUZ BIOTECHNOLOGY, INC.

SCMH1 siRNA (h): sc-78927

BACKGROUND

Polycomb group (PcG) proteins are important for maintaining the transcriptionally repressed state of target genes and are thought to function via chromatin modification. SCMH1 (sex comb on midleg homolog 1), also known as Scml3, is a mammalian homolog of the *Drosophila* Scm protein and is expressed in testis where it is thought to play a role in germ cell maturation and male reproduction. Multiple isoforms of SCMH1 exist due to alternative splicing events. The gene encoding SCMH1 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Bornemann, D., et al. 1996. The *Drosophila* polycomb group gene sex comb on midleg (Scm) encodes a zinc-finger protein with similarity to polyhomeotic protein. Development 122: 1621-1630.
2. Tomotsune, D., et al. 1999. A novel member of murine polycomb-group proteins, sex comb on midleg homolog protein, is highly conserved, and interacts with RAE28/mph1 *in vitro*. Differentiation 65: 229-239.
3. Berger, J., et al. 1999. The human homolog of sex comb on midleg (SCMH1) maps to chromosome 1p34. Gene 237: 185-191.
4. Levine, S.S., et al. 2002. The core of the polycomb repressive complex is compositionally and functionally conserved in flies and humans. Mol. Cell. Biol. 22: 6070-6078.
5. Takada, Y., et al. 2007. Mammalian polycomb SCMH1 mediates exclusion of polycomb complexes from the XY body in the pachytene spermatocytes. Development 134: 579-590.

CHROMOSOMAL LOCATION

Genetic locus: SCMH1 (human) mapping to 1p34.2.

PRODUCT

SCMH1 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 SCMH1 shRNA Plasmid (h): sc-78927-SH and SCMH1 shRNA (h) Lentiviral Particles: sc-78927-V as alternate gene silencing products.

For independent verification of SCMH1 (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-78927A, sc-78927B and sc-78927C.

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

SCMH1 siRNA (h) is recommended for the inhibition of SCMH1 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

SCMH1 (7-RY14): sc-135621 is recommended as a control antibody for monitoring of SCMH1 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 SCMH1 gene expression knockdown using RT-PCR Primer: SCMH1 (h)-PR: sc-78927-PR (20 µl). 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.