SANTA CRUZ BIOTECHNOLOGY, INC.

Lsh siRNA (m): sc-38034

BACKGROUND

The SNF2 family of helicases are thought to act as transcriptional regulators by their ability to alter the structure of chromatin. One such member, lymphoid-specific helicase (Lsh, also designated Hells for lymphoid-specific DNA helicase), is highly expressed in lymphoid precursor cells in adult animals and is required for the proliferation of peripheral T lymphocytes. Lsh is also expressed in fetal liver and more abundantly in fetal thymus. Lsh protein shows substantial homology to other members of the SNF2 family that are involved in chromatin remodeling and transcription, however does not show similarity to members involved in DNA repair or recombination. The similarity of Lsh to another SNF2 homolog, Mi-2, which functions as a transcriptional silencer in chromatin remodeling, suggests that Lsh may participate in chromatin repression to regulate transcription, rather than chromatin "opening".

REFERENCES

1. Eisen, J.A., et al. 1995. Evolution of the SNF2 family of proteins: subfamilies with distinct sequences and functions. Nucleic Acids Res. 23: 2715-2723.
2. Jarvis, C.D., et al. 1996. A novel putative helicase produced in early murine lymphocytes. Gene 169: 203-207.
3. Imbalzano, A.N. 1998. Energy-dependent chromatin remodelers: complex complexes and their components. Crit. Rev. Eukaryot. Gene Expr. 8: 225-255.
4. Jones, P.L., et al. 1998. Methylated DNA and MeCP2 recruit histone deacetylase to repress transcription. Nat. Genet. 19: 187-191.
5. Wade, P.A., et al. 1998. A multiple subunit Mi-2 histone deacetylase from *Xenopus laevis* cofractionates with an associated SNF2 superfamily ATPase. Curr. Biol. 8: 843-846.
6. Jones, P.L., et al. 1999. Relationships between chromatin organization and DNA methylation in determining gene expression. Semin. Cancer Biol. 9: 339-347.
7. Geiman, T.M., et al. 2000. Lsh, an SNF2/helicase family member, is required for proliferation of mature T lymphocytes. Prod. Natl. Acad. Sci. USA 97: 4772-4777.

CHROMOSOMAL LOCATION

Genetic locus: Hells (mouse) mapping to 19 C3.

PRODUCT

Lsh 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 Lsh shRNA Plasmid (m): sc-38034-SH and Lsh shRNA (m) Lentiviral Particles: sc-38034-V as alternate gene silencing products.

For independent verification of Lsh (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-38034A, sc-38034B and sc-38034C.

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

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

Lsh (H-4): sc-46665 is recommended as a control antibody for monitoring of Lsh 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 Lsh gene expression knockdown using RT-PCR Primer: Lsh (m)-PR: sc-38034-PR (20 µl, 530 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.