SANTA CRUZ BIOTECHNOLOGY, INC.

L3MBTL2 siRNA (m): sc-146625

BACKGROUND

Polycomb group (PcG) proteins are important for maintaining the transcriptionally repressed state of target genes and are thought to function via chromatin modification. L3MBTL2 (Lethal(3)malignant brain tumor-like 2 protein), also known as L3MBT or H-l(3)mbt-l, is a 705 amino acid member of the PcG family. Localized to the nucleus, L3MBTL2 associates with chromatin-remodeling complexes and helps inhibit the expression of proteins that trigger the cell to enter mitosis. During the G_0 phase of the cell cycle, L3MBTL2 is part of a complex that contains other proteins (such as HP1γ, E2F-6 and Max) that participate in transcriptional repression. L3MBTL2 contains one FCS-type zinc finger and four MBT repeats and is expressed as three isoforms due to alternative splicing events.

REFERENCES

1. Dunham, I., et al. 1999. The DNA sequence of human chromosome 22. Nature 402: 489-495.
2. Wismar, J. 2001. Molecular characterization of h-l(3)mbt-like: a new member of the human mbt family. FEBS Lett. 507: 119-121.
3. Ogawa, H., et al. 2002. A complex with chromatin modifiers that occupies E2F- and Myc-responsive genes in G_0 cells. Science 296: 1132-1136.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611865. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Markus, J., et al. 2003. Proliferation-linked expression of the novel murine gene m4mbt encoding a nuclear zinc finger protein with four mbt domains. Gene 319: 117-126.
6. Li, J., et al. 2004. Imprinting of the human L3MBTL gene, a polycomb family member located in a region of chromosome 20 deleted in human myeloid malignancies. Proc. Natl. Acad. Sci. USA 101: 7341-7346.

CHROMOSOMAL LOCATION

Genetic locus: L3mbtl2 (mouse) mapping to 15 E1.

PRODUCT

L3MBTL2 siRNA (m) is a pool of 2 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 L3MBTL2 shRNA Plasmid (m): sc-146625-SH and L3MBTL2 shRNA (m) Lentiviral Particles: sc-146625-V as alternate gene silencing products.

For independent verification of L3MBTL2 (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-146625A and sc-146625B.

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

L3MBTL2 siRNA (m) is recommended for the inhibition of L3MBTL2 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

L3MBTL2 (F-3): sc-365134 is recommended as a control antibody for monitoring of L3MBTL2 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 L3MBTL2 gene expression knockdown using RT-PCR Primer: L3MBTL2 (m)-PR: sc-146625-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.