SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl-11b siRNA (m): sc-44942

BACKGROUND

Bcl-11a (CtIP-1, EVI9, B cell chronic lymphocytic leukemia (CLL)/lymphoma 11A) and Bcl-11b (CtIP-2, RIT1, B cell CLL/lymphoma 11B) genes play crucial roles in lymphopoiesis and influence the progression of hematopoietic malignancies. Disruption of the Bcl-11b locus is linked to T cell acute lymphoblastic leukemia, and the loss of heterozygosity in mice results in T cell lymphoma. Bcl-11 proteins are related C_2H_2 zinc-finger transcription factors that act as transcriptional repressors. Bcl-11b can interact with the metastasis-associated proteins MTA1 and MTA2 through the amino-terminal region. Bcl-11a is essential for postnatal development and normal lymphopoiesis. The Bcl-11a mouse gene is a common site of retroviral integration in myeloid leukemia, and may function as a leukemia disease gene, in part, through its interaction with Bcl-6.

REFERENCES

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3. Liu, P., et al. 2003. Bcl11a is essential for normal lymphoid development. Nat. Immunol. 4: 525-532.
4. Durum, S.K. 2003. Bcl11: sibling rivalry in lymphoid development. Nat. Immunol. 4: 512-514.
5. Nagel, S., et al. 2003. The cardiac homeobox gene NKX2-5 is deregulated by juxtaposition with BCL11B in pediatric T-ALL cell lines via a novel t(5;14)(q35.1;q32.2). Cancer Res. 63: 5329-5334.
6. Togashi, T., et al. 2004. Two distinct methods analyzing chromatin structure using centrifugation and antibodies to modified Histone H3: both provide similar chromatin states of the Rit1/Bcl11b gene. Biochem. Biophys. Res. Commun. 313: 489-495.
7. Sakata, J., et al. 2004. Involvement of V(D)J recombinase in the generation of intragenic deletions in the Rit1/Bcl11b tumor suppressor gene in γ-ray-induced thymic lymphomas and in normal thymus of the mouse. Carcinogenesis 25: 1069-1075.

CHROMOSOMAL LOCATION

Genetic locus: Bcl11b (mouse) mapping to 12 F1.

PRODUCT

Bcl-11b 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 Bcl-11b shRNA Plasmid (m): sc-44942-SH and Bcl-11b shRNA (m) Lentiviral Particles: sc-44942-V as alternate gene silencing products.

For independent verification of Bcl-11b (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-44942A, sc-44942B and sc-44942C.

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

Bcl-11b siRNA (m) is recommended for the inhibition of Bcl-11b 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

Bcl-11b (F-4): sc-365320 is recommended as a control antibody for monitoring of Bcl-11b 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 Bcl-11b gene expression knockdown using RT-PCR Primer: Bcl-11b (m)-PR: sc-44942-PR (20 µl, 596 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.