SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl-7b siRNA (h): sc-89728

BACKGROUND

Bcl-7b (B-cell CLL/lymphoma 7B) is a 202 amino acid protein that exists as multiple alternatively spliced isoforms and belongs to the Bcl-7 family. Expressed ubiquitously, Bcl-7b is thought to play a role in the development and progression of lung tumors, suggesting a possible role in cell cycle or apoptotic control. Haploinsufficiency of the Bcl-7b gene is associated with the pathogenesis of certain cardiovascular and musculo-skeletal abnormalities observed in Williams-Beuren syndrome (WBS). Additionally, Bcl-7b may cause an allergic reaction in humans, specifically by binding to IgE in atopic dermatitis patients and functioning as an autoantigen. The gene encoding Bcl-7b maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to Osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Zani, V.J., et al. 1996. Molecular cloning of complex chromosomal translocation t(8;14;12)(q24.1;q32.3;q24.1) in a Burkitt lymphoma cell line defines a new gene (BCL7A) with homology to caldesmon. Blood 87: 3124-3134.
2. Natter, S., et al. 1998. Isolation of cDNA clones coding for IgE autoantigens with serum IgE from atopic dermatitis patients. FASEB J. 12: 1559-1569.
3. Jadayel, D.M., et al. 1998. The BCL7 gene family: deletion of BCL7B in Williams syndrome. Gene 224: 35-44.
4. Meng, X., et al. 1998. Complete physical map of the common deletion region in Williams syndrome and identification and characterization of three novel genes. Hum. Genet. 103: 590-599.
5. Liang, H., et al. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. Proc. Natl. Acad. Sci. USA 95: 3781-3785.

CHROMOSOMAL LOCATION

Genetic locus: BCL7B (human) mapping to 7q11.23.

PRODUCT

Bcl-7b 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 Bcl-7b shRNA Plasmid (h): sc-89728-SH and Bcl-7b shRNA (h) Lentiviral Particles: sc-89728-V as alternate gene silencing products.

For independent verification of Bcl-7b (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-89728A, sc-89728B and sc-89728C.

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

Bcl-7b siRNA (h) is recommended for the inhibition of Bcl-7b 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

Bcl-7b (NQ-B25): sc-134278 is recommended as a control antibody for monitoring of Bcl-7b 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-7b gene expression knockdown using RT-PCR Primer: Bcl-7b (h)-PR: sc-89728-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.