SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl-B siRNA (h): sc-90043

BACKGROUND

Members of the Bcl-2 family of proteins regulate cell survival by either inhibiting apoptosis or by facilitating the complicated process of cell death. Bcl-B, also known as Bcl2L10, Diva, Boo or BCLB, is a widely expressed 194 amino acid member of the Bcl-2 protein family. Localized to the nuclear membrane, Bcl-B promotes cell survival by suppressing BAX-induced apoptosis. Bcl-2 contains a BH4 domain as well as a transmembrane domain, both of which are necessary for its antiapoptotic effects. Overexpression of Bcl-B is thought to prevent the release of cytochrome C from the mitochondria, thereby triggering caspase-3 activation and suppressing cell apoptosis. Bcl-B is implicated in the pathogenesis of cervical cancer.

REFERENCES

1. Ke, N., et al. 2001. Bcl-B, a novel Bcl-2 family member that differentially binds and regulates Bax and Bak. J. Biol. Chem. 276: 12481-12484.
2. Lee, R., et al. 2001. Characterization of NR13-related human cell death regulator, Boo/Diva, in normal and cancer tissues. Biochim. Biophys. Acta 1520: 187-194.
3. Itoh, T., et al. 2003. Bcl-2-related protein family gene expression during oligodendroglial differentiation. J. Neurochem. 85: 1500-1512.
4. Yasui, K., et al. 2004. Alteration in copy numbers of genes as a mechanism for acquired drug resistance. Cancer Res. 64: 1403-1410.
5. Mikata, R., et al. 2006. Analysis of genes upregulated by the demethylating agent 5-aza-2'-deoxycytidine in gastric cancer cell lines. Int. J. Cancer 119: 1616-1622.
6. Kang, Y., et al. 2007. NM23-H2 involves in negative regulation of Diva and Bcl2L10 in apoptosis signaling. Biochem. Biophys. Res. Commun. 359: 76-82.
7. Vandaele, L., et al. 2008. mRNA expression of Bcl-2, Bax, caspase-3 and -7 cannot be used as a marker for apoptosis in bovine blastocysts. Anim. Reprod. Sci. 106: 168-173.

CHROMOSOMAL LOCATION

Genetic locus: BCL2L10 (human) mapping to 15q21.2.

PRODUCT

Bcl-B 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-B shRNA Plasmid (h): sc-90043-SH and Bcl-B shRNA (h) Lentiviral Particles: sc-90043-V as alternate gene silencing products.

For independent verification of Bcl-B (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-90043A, sc-90043B and sc-90043C.

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-B siRNA (h) is recommended for the inhibition of Bcl-B 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-B (3B4): sc-134279 is recommended as a control antibody for monitoring of Bcl-B 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-B gene expression knockdown using RT-PCR Primer: Bcl-B (h)-PR: sc-90043-PR (20 µl, 494 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sarif, Z., et al. 2020. Mcl-1 targeting strategies unlock the proapoptotic potential of TRAIL in melanoma cells. Mol. Carcinog. 59: 1256-1268.

RESEARCH USE

For research use only, not for use in diagnostic procedures.