SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl10 siRNA (h): sc-29793

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The Power to Question

BACKGROUND

Bcl10, also designated CIPER, c-CARMEN and mE10, was first identified as a gene truncated or mutated in MALT B cell lymphomas and other tumor types. Bcl10 is homologous to the equine herpesvirus-2 E10 gene and, like E10, it contains an N-terminal caspase recruitment domain (CARD). Expression of Bcl10 has been shown to induce NFκB activation in a NIK-dependent pathway, and research indicates that the CARD domain is essential for this activation; although in a separate study, Bcl10 by itself did not induce JNK or NFκB activation. Overexpression of Bcl10 has been shown to induce apoptosis in a manner dependent on CARD-mediated oligomerization. Bcl10 has also been shown to play a role in processing of caspase-9 to its active dimer. Other studies have shown that Bcl10 is not mutated in many human tumors and lymphomas.

CHROMOSOMAL LOCATION

Genetic locus: BCL10 (human) mapping to 1p22.3.

PRODUCT

Bcl10 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 Bcl10 shRNA Plasmid (h): sc-29793-SH and Bcl10 shRNA (h) Lentiviral Particles: sc-29793-V as alternate gene silencing products.

For independent verification of Bcl10 (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-29793A, sc-29793B and sc-29793C.

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

Bcl10 siRNA (h) is recommended for the inhibition of Bcl10 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.

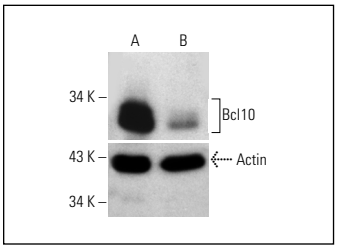
GENE EXPRESSION MONITORING

Bcl10 (331.3): sc-5273 is recommended as a control antibody for monitoring of Bcl10 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Bcl10 gene expression knockdown using RT-PCR Primer: Bcl10 (h)-PR: sc-29793-PR (20 µl, 424 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Bcl10 siRNA (h): sc-29793. Western blot analysis of Bcl10 expression in non-transfected control (**A**) and Bcl10 siRNA transfected (**B**) HeLa cells. Blot probed with Bcl10 (331.3): sc-5273. Actin (I-19): sc-1616 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Rueda, D., et al. 2007. Bcl10 controls TCR- and FcγR-induced Actin polymerization. J. Immunol. 178: 4373-4384.
2. Kuo, S.H., et al. 2012. Expression of Bcl10 in cervical cancer has a role in the regulation of cell growth through the activation of NFκB-dependent cyclin D1 signaling. Gynecol. Oncol. 126: 245-251.
3. Kuo, S.H., et al. 2017. The B-cell-activating factor signalling pathway is associated with *Helicobacter pylori* independence in gastric mucosa-associated lymphoid tissue lymphoma without t(11;18)(q21;q21). J. Pathol. 241: 420-433.
4. Chou, C.H., et al. 2019. B-cell activating factor enhances hepatocyte-driven angiogenesis via B-cell CLL/lymphoma 10/nuclear factor-κB signaling during liver regeneration. Int. J. Mol. Sci. 20: 5022.
5. Chen, H., et al. 2021. Bcl10 correlates with bad prognosis and immune infiltration of tumor microenvironment in hepatocellular carcinoma. IUBMB Life. E-published.

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.