SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl-3 siRNA (m): sc-29790

BACKGROUND

On the basis of both functional and structural considerations, members of the IκB family of proteins can be divided into three groups. The first of these groups, IκB-α, includes the avian protein pp40 and the mammalian Mad 3, both of which inhibit binding of p50-p65 NFκB complex or Rel protein to their cognate binding sites but do not inhibit the binding of p50 homodimer to κB sites, suggesting that the IκB-α family binds to the p65 subunit of p50-p65 heterocomplex through ankyrin repeats. The second member of the IκB family is represented by a protein designated IκB-β. The third group of IκB proteins is represented by IκB-γ, a protein identical in sequence with the C-terminal domain of the p110 precursor of NFκB p50 and expressed predominantly in lymphoid cells. The proto-oncogene Bcl-3, believed to be involved in certain human B cell leukemias, encodes a protein that functions as an IκB-like molecule for native NFκB but is specific for the p50 subunit.

REFERENCES

1. Ghosh, S., et al. 1990. Activation *in vitro* of NFκB by phosphorylation of its inhibitor IκB. Nature 344: 678-682.
2. Davis, N., et al. 1991. Rel-associated pp40: an inhibitor of the Rel family of transcription factors. Science 252: 1268-1271.
3. Kerr, L.D., et al. 1991. The Rel-associated pp40 protein prevents DNA binding of Rel and NFκB: relationship with IκB-β and regulation by phosphorylation. Genes Dev. 5: 1464-1476.
4. Haskill, S., et al. 1991. Characterization of an immediate-early gene induced in adherent monocytes that encodes IκB like activity. Cell 65: 1281-1289.

CHROMOSOMAL LOCATION

Genetic locus: Bcl3 (mouse) mapping to 7 A3.

PRODUCT

Bcl-3 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-3 shRNA Plasmid (m): sc-29790-SH and Bcl-3 shRNA (m) Lentiviral Particles: sc-29790-V as alternate gene silencing products.

For independent verification of Bcl-3 (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-29790A, sc-29790B and sc-29790C.

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-3 siRNA (m) is recommended for the inhibition of Bcl-3 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-3 (150-3.5): sc-32741 is recommended as a control antibody for monitoring of Bcl-3 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 Bcl-3 gene expression knockdown using RT-PCR Primer: Bcl-3 (m)-PR: sc-29790-PR (20 µl, 437 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Massoumi, R., et al. 2006. Cyld inhibits tumor cell proliferation by blocking Bcl-3-dependent NFκB signaling. Cell 125: 665-677.
2. Muhlbauer, M., et al. 2008. Impaired Bcl-3 up-regulation leads to enhanced lipopolysaccharide-induced interleukin (IL)-23P19 gene expression in IL-10$^{-/-}$ mice. J. Biol. Chem. 283: 14182-14189.
3. Dagvadorj, J., et al. 2009. Interleukin (IL)-10 attenuates lipopolysaccharide-induced IL-6 production via inhibition of IκB-ζ activity by Bcl-3. Innate Immun. 15: 217-224.
4. Hozyasz, K.K., et al. 2009. Relation between the concentration of zinc in maternal whole blood and the risk of an infant being born with an orofacial cleft. Br. J. Oral Maxillofac. Surg. 47: 466-469.
5. Poveda, J., et al. 2017. Bcl3: a regulator of NFκB inducible by TWEAK in acute kidney injury with anti-inflammatory and antiapoptotic properties in tubular cells. Exp. Mol. Med. 49: e352.

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.