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# I $\kappa$ B- $\zeta$ siRNA (h): sc-44896

## BACKGROUND

I $\kappa$ B- $\zeta$  (also called MAIL-S or INAP) is a member of the I $\kappa$ B family. It shares a 30% identity with other family members and consists of six ankyrin repeats at its C-terminal. I $\kappa$ B- $\zeta$  accumulates in the nucleus and, in humans, associates with the p50 and p65 subunits of nuclear NF $\kappa$ B via its ankyrin repeats. The mouse homologue of I $\kappa$ B- $\zeta$  has only been shown to associate with the p50 subunit. I $\kappa$ B- $\zeta$  inhibits DNA binding and activity of the transcription factor NF $\kappa$ B. Distinct from other I $\kappa$ B family members, I $\kappa$ B- $\zeta$  is not degraded upon cell stimulation and activation of NF $\kappa$ B, rather evidence shows that it is up-regulated under these circumstances. This suggests that I $\kappa$ B- $\zeta$  plays a significant role in regulation of NF $\kappa$ B and that NF $\kappa$ B may regulate I $\kappa$ B- $\zeta$  in a negative feedback loop. Regulation of NF $\kappa$ B by I $\kappa$ B- $\zeta$  may differ depending on the species.

## REFERENCES

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3. Shiina, T., et al. 2004. Targeted disruption of MAIL, a nuclear I $\kappa$ B protein, leads to severe atopic dermatitis-like disease. *J. Biol. Chem.* 279: 55493-55498.
4. Kusaka, M., et al. 2005. Gene expression profile in rat renal isografts from brain dead donors. *Transplant. Proc.* 37: 364-366.
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6. Motoyama, M., et al. 2005. Positive and negative regulation of nuclear factor- $\kappa$ B-mediated transcription by I $\kappa$ B- $\zeta$ , an inducible nuclear protein. *J. Biol. Chem.* 280: 7444-7451.
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8. Cowland, J.B., et al. 2006. IL-1 $\beta$ -specific up-regulation of neutrophil gelatinase-associated lipocalin is controlled by I $\kappa$ B- $\zeta$ . *J. Immunol.* 176: 5559-5566.
9. Totzke, G., et al. 2006. A novel member of the I $\kappa$ B family, human I $\kappa$ B- $\zeta$ , inhibits transactivation of p65 and its DNA binding. *J. Biol. Chem.* 281: 12645-12654.

## CHROMOSOMAL LOCATION

Genetic locus: NFKBIZ (human) mapping to 3q12.3.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

I $\kappa$ B- $\zeta$  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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see I $\kappa$ B- $\zeta$  shRNA Plasmid (h): sc-44896-SH and I $\kappa$ B- $\zeta$  shRNA (h) Lentiviral Particles: sc-44896-V as alternate gene silencing products.

For independent verification of I $\kappa$ B- $\zeta$  (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-44896A, sc-44896B and sc-44896C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

I $\kappa$ B- $\zeta$  siRNA (h) is recommended for the inhibition of I $\kappa$ B- $\zeta$  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  $\mu$ M in 66  $\mu$ l. 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor I $\kappa$ B- $\zeta$  gene expression knockdown using RT-PCR Primer: I $\kappa$ B- $\zeta$  (h)-PR: sc-44896-PR (20  $\mu$ l, 554 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.