SANTA CRUZ BIOTECHNOLOGY, INC.

Bok siRNA (h): sc-37300

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the Bcl-2 family of proteins interact to regulate apoptosis, a process by which multicellular organisms eliminate superflous cells. Various homodimers and heterodimers formed by proteins in this family either promote or inhibit apoptosis. Bcl-2 blocks cell death following a variety of stimuli and confers a death-sparing effect on certain hematopoietic cell lines following growth factor withdrawal. Bok, or Bcl-2 related ovarian killer, is highly expressed in ovary, testis, uterus and mammary glands. Bok induces apoptosis in cells, which is suppressible by anti-apoptotic human Bcl-2 family proteins. Bok targets mitochondria and triggers cytochrome c release through a caspase-independent mechanism. Bok contains the conserved Bcl-2 homology (BH) domains 1, 2 and 3, but lacks the BH4 domain. Bok selectively heterodimerizes with some anti-apoptotic members of the Bcl-2 protein family, including Mcl-1 and Bfl-1, but it does not appear to interact with Bcl-2, Bcl-x_L and Bcl-w.

REFERENCES

1. Vaux, D.L., et al. 1988. Bcl-2 promotes the survival of hemopoietic cells and cooperates with c-Myc to immortalize pre-B cells. Nature 335: 440-442.
2. Nunez, G., et al. 1990. Deregulated Bcl-2 gene expression selectively prolongs survival of growth factor-deprived hemopoietic cell lines. J. Immunol. 144: 3602-3610.
3. Sato, T., et al. 1994. Interactions among members of the Bcl-2 protein family analyzed with a yeast two-hybrid system. Proc. Natl. Acad. Sci. USA 91: 9238-9242.
4. Oltvai, Z.N., et al. 1994. Checkpoints of dueling dimers foil death wishes. Cell 79: 189-192.
5. Yang, E., et al. 1996. Molecular thanatopsis: a discourse on the Bcl-2 family and cell death. Blood 88: 386-401.
6. Hsu, S.Y., et al. 1997. Bok is a pro-apoptotic Bcl-2 protein with restricted expression in reproductive tissues and heterodimerizes with selective anti-apoptotic Bcl-2 family members. Proc. Natl. Acad. Sci. USA 94: 12401-12406.
7. Hsu, S., et al. 2000. Tissue specific Bcl-2 protein partners in apoptosis: an ovarian paradigm. Physiol. Rev. 80: 593-614.
8. Zhang, H., et al. 2000. drosophilia pro-apoptotic Bcl-2/Bax homologue reveals evolutionary conservation of cell death mechanisms. J. Biol. Chem. 275: 27303-27306.
9. Ha, S., et al. 2001. The expression of Bok is regulated by serum in HC11 mammary epithelial cells. Mol. Cells 12: 368-371.

CHROMOSOMAL LOCATION

Genetic locus: BOK (human) mapping to 2q37.3.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Bok 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 Bok shRNA Plasmid (h): sc-37300-SH and Bok shRNA (h) Lentiviral Particles: sc-37300-V as alternate gene silencing products.

For independent verification of Bok (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-37300A, sc-37300B and sc-37300C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Bok gene expression knockdown using RT-PCR Primer: Bok (h)-PR: sc-37300-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.