

# Hrk siRNA (h): sc-37303

## BACKGROUND

Members of the Bcl-2 family of proteins interact to regulate programmed cell death, or apoptosis. Various homodimers and heterodimers formed by proteins in this family can 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. Additional apoptotic inhibitors in this family include Bcl-x, Bcl-w, Mcl-1, Bag-1 and A1. Pro-apoptotic members of this family include Bax, Bad, Bak, NBK (Bik), BID and Hrk. Hrk (for harakiri), designated DP5 or neuronal death protein in mouse and rat, contains a BH3 domain with high homology to other Bcl-2 family members but lacks the conserved BH1 and BH2 domains. Physical interaction of Hrk with Bcl-2 or Bcl-x<sub>L</sub> inhibits the apoptotic activity of Hrk.

## REFERENCES

- 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.
- 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.
- Oltvai, Z.N., et al. 1993. Bcl-2 heterodimerizes *in vivo* with a conserved homolog, Bax, that accelerates programmed cell death. *Cell* 74: 609-619.
- 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.
- Oltvai, Z.N., et al. 1994. Checkpoints of dueling dimers foil death wishes. *Cell* 79: 189-192.
- Yang, E., et al. 1996. Molecular thanatopsis: a discourse on the Bcl-2 family and cell death. *Blood* 88: 386-401.
- Wang, K., et al. 1996. BID: a novel BH3 domain-only death agonist. *Genes Dev.* 10: 2859-2869.
- Nagata, S. 1997. Apoptosis by death factor. *Cell* 88: 355-365.
- Inohara, N., et al. 1997. Harakiri, a novel regulator of cell death, encodes a protein that activates apoptosis and interacts selectively with survival-promoting proteins Bcl-2 and Bcl-x<sub>L</sub>. *EMBO J.* 16: 1686-1694.

## CHROMOSOMAL LOCATION

Genetic locus: HRK (human) mapping to 12q24.22.

## PRODUCT

Hrk siRNA (h) is a target-specific 19-25 nt siRNA 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 Hrk shRNA Plasmid (h): sc-37303-SH and Hrk shRNA (h) Lentiviral Particles: sc-37303-V as alternate gene silencing products.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

Hrk siRNA (h) is recommended for the inhibition of Hrk expression in human cells.

## GENE EXPRESSION MONITORING

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 Hrk gene expression knockdown using RT-PCR Primer: Hrk (h)-PR: sc-37303-PR (20  $\mu$ l, 355 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.