

Bcl-rambo siRNA (h): sc-62015

BACKGROUND

Apoptosis is defined as a set of cascades which, when initiated, program the cell to undergo lethal changes such as membrane blebbing, mitochondrial breakdown and DNA fragmentation. The Bcl-2 family of proteins plays a central regulatory role in apoptosis. Bcl-rambo, a member of the Bcl-2 family, localizes to the mitochondria and, like other Bcl-2 family members, contains all four BH domains. Although Bcl-rambo shares structural similarity to other Bcl-2 members, it differs from them in its unique C-terminal region. Bcl-rambo has a 250 amino acid sequence containing two tandem repeats that precedes the membrane anchor region at its C-terminus. Additionally, it is the membrane anchor C-terminal region of Bcl-rambo, not its Bcl-2 homology motifs, that is responsible for its pro-apoptotic activity. Bcl-rambo induces apoptosis when overexpressed and appears to do so by promoting mitochondrial cytochrome c release. It may also facilitate the activation of caspase-3.

REFERENCES

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4. Reed, J.C. 1994. Bcl-2 and the regulation of programmed cell death. *J. Cell Biol.* 124: 1-6.
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6. Adams, J.M., et al. 1998. The Bcl-2 protein family: arbiters of cell survival. *Science* 281: 1322-1326.
7. Kataoka, T., et al. 2001. Bcl-rambo, a novel Bcl-2 homologue that induces apoptosis via its unique C-terminal extension. *J. Biol. Chem.* 276: 19548-19554.
8. Kaufmann, S.H. and Hengartner, M.O. 2001. Programmed cell death: alive and well in the new millennium. *Trends Cell Biol.* 11: 526-534.

CHROMOSOMAL LOCATION

Genetic locus: BCL2L13 (human) mapping to 22q11.21.

PRODUCT

Bcl-rambo 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Bcl-rambo shRNA Plasmid (h): sc-62015-SH and Bcl-rambo shRNA (h) Lentiviral Particles: sc-62015-V as alternate gene silencing products.

For independent verification of Bcl-rambo (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-62015A, sc-62015B and sc-62015C.

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

APPLICATIONS

Bcl-rambo siRNA (h) is recommended for the inhibition of Bcl-rambo 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

Bcl-rambo (G-9): sc-390598 is recommended as a control antibody for monitoring of Bcl-rambo 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Bcl-rambo gene expression knockdown using RT-PCR Primer: Bcl-rambo (h)-PR: sc-62015-PR (20 μ l). 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.

PROTOCOLS

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