

Bax β siRNA (h): sc-37289

BACKGROUND

The Bax protein belongs to a growing family of related Bcl-2 proteins which regulate apoptosis by controlling the permeability of the mitochondrial membrane to the apoptogenic protein cytochrome c. Cytochrome c, in turn, activates the proteolytic proteins known as caspases. The Bcl-2 protein family members play both pro-apoptotic and anti-apoptotic roles, and all possess at least one of four conserved motifs known as "Bcl-2 homology domains" (BH1 to BH4). These domains play key roles as binding sites which allow the Bcl-2 proteins to form homodimers or heterodimers, thus regulating the apoptotic activity of these proteins. Bax is a cytosolic protein that plays a pro-apoptotic role by binding to the permeability transition pore complex (PTPC) and by binding Bcl-2, a protein which plays an anti-apoptotic role. The ratio between Bax/Bcl-2 heterodimers and Bax/Bax homodimers appears to be pivotal in determining the lifespan of a cell. Bax exhibits numerous splice variants, including α , β , γ , δ and κ . Bax β is a 218 amino acid protein. Intron 5 of Bax β RNA consists of 630 bp and does not undergo splicing, which accounts for the apparent size increase.

REFERENCES

1. Bakhshi, A., et al. 1985. Cloning the chromosomal breakpoint of t(14;18) human lymphomas: clustering around JH on chromosome 14 and near a transcriptional unit on 18. *Cell* 41: 899-906.
2. Vaux, D.L., et al. 1988. Bcl-2 promotes the survival of haemopoietic cells and cooperates with c-Myc to immortalize pre-B cells. *Nature* 335: 440-442.
3. 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.

CHROMOSOMAL LOCATION

Genetic locus: BAX (human) mapping to 19q13.33.

PRODUCT

Bax β 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 Bax β shRNA Plasmid (h): sc-37289-SH and Bax β shRNA (h) Lentiviral Particles: sc-37289-V as alternate gene silencing products.

For independent verification of Bax β (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-37289A, sc-37289B and sc-37289C.

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

Bax β siRNA (h) is recommended for the inhibition of Bax β 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

Bax (B-9): sc-7480 is recommended as a control antibody for monitoring of Bax β 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 Bax β gene expression knockdown using RT-PCR Primer: Bax β (h)-PR: sc-37289-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.