SANTA CRUZ BIOTECHNOLOGY, INC.

BNIPL-2 siRNA (m): sc-141721

BACKGROUND

The adenovirus E1B protein is a viral homolog of the Bcl-2 family of proteins that are involved in regulating cell death. A family of interacting proteins, which are designated Nip or Bnip and include BNIP-1, BNIP-2, BNIP-3, BNIPL-2 and Nix, associate with both the E1B protein and Bcl-2 proteins to mediate apoptotic signaling. BNIPL-2 (Bcl-2/adenovirus E1B 19 kDa-interacting protein 2-like protein), also known as PP753, BNIP-S, BNIPL-1 or BNIPL, is a 357 amino acid protein that shares homology to BNIP-2 and also contains BNIP-2 and Cdc42GAP homology (BCH) domains. BNIPL-2 may participate in cell apoptosis, growth inhibition and cell proliferation by acting as a linker molecule between Bcl-2 and Cdc42GAP, both of which are associated with cell death. BNIPL-2 may also be essential in regulating the DNA fragmentation pathway and in the formation of membrane blebs in apoptotic cells. BNIPL-2 exists as a homodimer and as three alternatively spliced isoforms.

REFERENCES

1. Boyd, J.M., et al. 1994. Adenovirus E1B 19 kDa and Bcl-2 proteins interact with a common set of cellular proteins. Cell 79: 341-351.
2. Chiou, S.K., et al. 1994. Functional complementation of the adenovirus E1B 19-kilodalton protein with Bcl-2 in the inhibition of apoptosis in infected cells. J. Virol. 68: 6553-6566.
3. Subramanian, T., et al. 1995. Functional substitution identifies a cell survival promoting domain common to adenovirus E1B 19 kDa and Bcl-2 proteins. Oncogene 11: 2403-2409.
4. Chen, G., et al. 1997. The E1B 19K/Bcl-2-binding protein Nip3 is a dimeric mitochondrial protein that activates apoptosis. J. Exp. Med. 186: 1975-1983.
5. Low, B.C., et al. 1999. Tyrosine phosphorylation of the Bcl-2-associated protein BNIP-2 by fibroblast growth factor receptor-1 prevents its binding to Cdc42GAP and Cdc42. J. Biol. Chem. 274: 33123-33130.
6. Chen, G., et al. 1999. Nix and Nip3 form a subfamily of pro-apoptotic mitochondrial proteins. J. Biol. Chem. 274: 7-10.
7. Qin, W., et al. 2003. BNIPL-2, a novel homologue of BNIP-2, interacts with Bcl-2 and Cdc42GAP in apoptosis. Biochem. Biophys. Res. Commun. 308: 379-385.

CHROMOSOMAL LOCATION

Genetic locus: Bnipl (mouse) mapping to 3 F2.1.

PRODUCT

BNIPL-2 siRNA (m) 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 BNIPL-2 shRNA Plasmid (m): sc-141721-SH and BNIPL-2 shRNA (m) Lentiviral Particles: sc-141721-V as alternate gene silencing products.

For independent verification of BNIPL-2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-141721A, sc-141721B and sc-141721C.

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

BNIPL-2 siRNA (m) is recommended for the inhibition of BNIPL-2 expression in mouse 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 BNIPL-2 gene expression knockdown using RT-PCR Primer: BNIPL-2 (m)-PR: sc-141721-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.

PROTOCOLS

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