SANTA CRUZ BIOTECHNOLOGY, INC.

NFκB p50 siRNA (h): sc-29407

BACKGROUND

Proteins encoded by the v-Rel viral oncogene and its cellular homolog, c-Rel, are members of a family of transcription factors that include the two subunits of the transcription factor NFκB (p50 and p65) and the *Drosophila* maternal morphagen, dorsal. These proteins share sequence homology over a region of 300 amino acids at their NH_2-terminus, the region that contains their DNA binding and dimerization domains. The DNA binding activity of NFκB is activated and rapidly transported from the cytoplasm to the nucleus in cells exposed to mitogens or growth factors. cDNAs encoding precursors for two distinct proteins have been described. These proteins, designated p105 and p100, are highly related but map on different chromosomes. The p105 (p110) precursor contains p50 at its N-terminus and a C-terminal region that when expressed as a separate molecule, designated PdI, binds to p50 and regulates its activity.

CHROMOSOMAL LOCATION

Genetic locus: NFKB1 (human) mapping to 4q24.

PRODUCT

NFκB p50 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NFκB p50 shRNA Plasmid (h): sc-29407-SH and NFκB p50 shRNA (h) Lentiviral Particles: sc-29407-V as alternate gene silencing 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 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

NFκB p50 siRNA (h) is recommended for the inhibition of NFκB p50 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.

GENE EXPRESSION MONITORING

NFκB p50 (E-10): sc-8414 is recommended as a control antibody for monitoring of NFκB p50 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NFκB p50 gene expression knockdown using RT-PCR Primer: NFκB p50 (h)-PR: sc-29407-PR (20 µl, 405 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

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4. Tao, Y., et al. 2012. LPS-induced nuclear translocation of RhoA is dependent on NFκB in the human lung cancer cell line A549. Oncol. Lett. 3: 1283-1287.
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6. Liu, C., et al. 2014. Transcriptional repression of the transforming growth factor β (TGF-β) pseudoreceptor BMP and activin membrane-bound inhibitor (BAMBI) by nuclear factor κB (NFκB) p50 enhances TGF-β signaling in hepatic stellate cells. J. Biol. Chem. 289: 7082-7091.
7. Liu, H., et al. 2014. Regulation of Mcl-1 by constitutive activation of NFκB contributes to cell viability in human esophageal squamous cell carcinoma cells. BMC Cancer 14: 98.
8. Nafez, S., et al. 2015. Early growth response 2 (Egr-2) expression is triggered by NFκB activation. Mol. Cell. Neurosci. 64: 95-103.
9. Kim, M., et al. 2017. GFRA1 promotes cisplatin-induced chemoresistance in osteosarcoma by inducing autophagy. Autophagy 13: 149-168.
10. Labrousse-Arias, D., et al. 2017. VHL promotes immune response against renal cell carcinoma via NFκB-dependent regulation of VCAM-1. J. Cell Biol. 216: 835-847.
11. Wang, W., et al. 2017. First synthesis of an oridonin-conjugated iridium(III) complex for the intracellular tracking of NFκB in living cells. Chemistry 23: 4929-4935.

RESEARCH USE

For research use only, not for use in diagnostic procedures.