SANTA CRUZ BIOTECHNOLOGY, INC.

NFκB p52 siRNA (h): sc-29409

BACKGROUND

The NFκB transcription factor was originally identi-fied as a protein complex consisting of a DNA binding subunit and an associated protein. The DNA binding subunit is functionally related to c-Rel p75 and Rel B p68. The p50 subunit was initially believed to be a functionally unique protein derived from the amino terminus of a precursor designated p105. A cDNA was isolated that encodes an alternative DNA binding subunit of NFκB. It is expressed in a variety of cell types and, like p105, undergoes cleavage to generate its NFκB subunit, in this case a protein designated p52 (previously referred to as p49). In contrast to p50 derived from p105, p52 acts in synergy with p65 to stimulate the HIV enhancer in transiently transfected Jurkat cells.

CHROMOSOMAL LOCATION

Genetic locus: NFKB2 (human) mapping to 10q24.32.

PRODUCT

NFκB p52 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NFκB p52 shRNA Plasmid (h): sc-29409-SH and NFκB p52 shRNA (h) Lentiviral Particles: sc-29409-V as alternate gene silencing products.

For independent verification of NFκB p52 (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-29409A, sc-29409B and sc-29409C.

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 p52 siRNA (h) is recommended for the inhibition of NFκB p52 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 p52 (C-5): sc-7386 is recommended as a control antibody for monitoring of NFκB p52 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 NFκB p52 gene expression knockdown using RT-PCR Primer: NFκB p52 (h)-PR: sc-29409-PR (20 µl, 565 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Fu, L., et al. 2006. Constitutive NFκB and NFAT activation leads to stimulation of the BLyS survival pathway in aggressive B-cell lymphomas. Blood 107: 4540-4548.
2. Khan, K.A., et al. 2009. Bcl-3-regulated transcription from major immediate-early promoter of human cytomegalovirus in monocyte-derived macro-phages. J. Immunol. 182: 7784-7794.
3. Ovrevik, J., et al. 2014. AhR and Arnt differentially regulate NFκB signaling and chemokine responses in human bronchial epithelial cells. Cell Commun. Signal. 12: 48.
4. Hutcherson, J.A., et al. 2015. *Porphyromonas gingivalis* RagB is a proinflammatory signal transducer and activator of transcription 4 agonist. Mol. Oral Microbiol. 30: 242-252.
5. 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.
6. Wan, S., et al. 2023. Interleukin-1 increases cyclooxygenase-2 expression and prostaglandin E2 production in human granulosa-lutein cell via nuclear factor κ B/P65 and extracellular signal-regulated kinase 1/2 signaling pathways. Mol. Cell. Endocrinol. 566-567: 111891.
7. Xiang, Y., et al. 2024. Interleukin-1 increases SERPINE1 expression in human granulosa-lutein cell via P50/P52 signaling pathways. Mol. Cell. Endocrinol. 591: 112274.

RESEARCH USE

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