SANTA CRUZ BIOTECHNOLOGY, INC.

c-Rel siRNA (h): sc-29857

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The Power to Question

BACKGROUND

c-Rel is the cellular cognate of v-Rel, the avian reticuloendotheliosis virus strain T transforming gene. v-Rel encodes a phosphoprotein that is located in the cytoplasm of transformed spleen cells and in the nucleus of non-transformed fibroblasts, in contrast to the c-Rel protein, which is cytoplasmic. c-Rel has been shown to represent a constituent of the κB site binding transcription factor NFκB, which plays a crucial role in the expression of immunoglobulin κ light chain gene. In contrast to c-Rel, v-Rel is truncated in its C-terminal transactivation domain and does not appear to function as a transcriptional transactivator. It has thus been postulated that v-Rel may interfere with the normal transcription of NFκB regulated genes and thus cause transformation by a mechanism analogous to v-ErbA, which binds to the thyroid hormone-responsive region in certain erythroid genes needed for differentiation, but cannot be activated by thyroid hormone.

REFERENCES

1. Theilen, G., et al. 1966. Biological studies with RE virus (strain T) that induces reticuloendotheliosis in turkeys, chickens, and Japanese quail. J. Natl. Cancer Inst. 37: 747-749.
2. Franklin, R.B., et al. 1974. Isolation and characterization of reticuloendotheliosis virus transformed bone marrow cells. Intervirology 3: 342-352.

CHROMOSOMAL LOCATION

Genetic locus: REL (human) mapping to 2p16.1.

PRODUCT

c-Rel 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 c-Rel shRNA Plasmid (h): sc-29857-SH and c-Rel shRNA (h) Lentiviral Particles: sc-29857-V as alternate gene silencing products.

For independent verification of c-Rel (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-29857A, sc-29857B and sc-29857C.

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

c-Rel siRNA (h) is recommended for the inhibition of c-Rel 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

c-Rel (B-6): sc-6955 is recommended as a control antibody for monitoring of c-Rel 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 c-Rel gene expression knockdown using RT-PCR Primer: c-Rel (h)-PR: sc-29857-PR (20 µl, 443 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Pham, L.V., et al. 2005. Constitutive NFκB and NFAT activation in aggressive B-cell lymphomas synergistically activates the CD154 gene and maintains lymphoma cell survival. Blood 106: 3940-3947.
2. Dolcet, X., et al. 2006. Proteasome inhibitors induce death but activate NFκB on endometrial carcinoma cell lines and primary culture explants. J. Biol. Chem. 281: 22118-22130.
3. Lu, K.T., et al. 2006. c-Rel plays a key role in deficient activation of B cells from a non-X-linked hyper-IgM patient. Blood 108: 3769-3776.
4. Valentín-Acevedo, A., et al. 2011. c-Rel deficiency increases caspase-4 expression and leads to ER stress and necrosis in EBV-transformed cells. PLoS ONE 6: e25467.
5. Liu, L., et al. 2014. Triptolide reverses hypoxia-induced epithelial-mesenchymal transition and stem-like features in pancreatic cancer by NFκB downregulation. Int. J. Cancer 134: 2489-2503.
6. Sekiya, Y., et al. 2017. c-Rel promotes invasion of choriocarcinoma cells via PI3K/Akt signaling. Oncology 92: 299-310.
7. Mohammadi, S.M., et al. 2017. Inhibition of c-Rel using siRNA increased apoptosis and decreased proliferation in pre-B ALL blasts: therapeutic implications. Leuk. Res. 61: 53-61.
8. Xiao, Y., et al. 2021. TNFAIP1 is upregulated in APP/PS1 mice and promotes apoptosis in SH-SY5Y cells by binding to RhoB. J. Mol. Neurosci. 71: 1221-1233.

RESEARCH USE

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