

# Produktinformation



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# SANTA CRUZ BIOTECHNOLOGY, INC.

# NFκB p65 shRNA (m2) Lentiviral Particles: sc-44213-V



# 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 NF $\kappa$ B (p50 and p65) and the *Drosophila* maternal morphogen, dorsal. Both proteins specifically bind to DNA sequences that are the same or slight variations of the 10 bp  $\kappa$ B sequence in the immunoglobulin  $\kappa$  light chain enhancer. This same sequence is also present in a number of other cellular and viral enhancers. The DNA-binding activity of NF $\kappa$ B is activated and NF $\kappa$ B is subsequently transported from the cytoplasm to the nucleus in cells exposed to mitogens or growth factors. cDNAs encoding precursors for two distinct proteins of the same size have been described, designated p105 and p100. The p105 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.

# REFERENCES

- 1. Meyer, R., et al. 1991. Cloning of the DNA-binding subunit of human nuclear factor  $\kappa$ B: the level of its mRNA is strongly regulated by phorbol ester or tumor necrosis factor  $\alpha$ . Proc. Natl. Acad. Sci. USA 88: 966-970.
- Schmid, R.M., et al. 1991. Cloning of an NFκB subunit which stimulates HIV transcription in synergy with p65. Nature 352: 733-736.
- Perkins, N.D., et al. 1992. Distinct combinations of NFκB subunits determine the specificity of transcriptional activation. Proc. Natl. Acad. Sci. USA 89: 1529-1533.
- 4. Ballard, D.W., et al. 1992. The 65 kDa subunit of human NF $\kappa$ B functions as a potent transcriptional activator and a target for v-Rel-mediated repression. Proc. Natl. Acad. Sci. USA 89: 1875-1879.

# CHROMOSOMAL LOCATION

Genetic locus: Rela (mouse) mapping to 19 A.

## PRODUCT

NF $\kappa$ B p65 shRNA (m2) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 2 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 µl frozen stock containing 1.0 x 10<sup>6</sup> infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see NF $\kappa$ B p65 siRNA (m2): sc-44213 and NF $\kappa$ B p65 shRNA Plasmid (m2): sc-44213-SH as alternate gene silencing products.

#### STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

# PROTOCOLS

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

# APPLICATIONS

 $NF\kappa B$  p65 shRNA (m2) Lentiviral Particles is recommended for the inhibition of  $NF\kappa B$  p65 expression in mouse cells.

# SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing 1.0 x 10<sup>6</sup> infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

# GENE EXPRESSION MONITORING

 $NF\kappa B$  p65 (G-8): sc-398442 is recommended as a control antibody for monitoring of  $NF\kappa B$  p65 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## **RT-PCR REAGENTS**

Semi-quantitative RT-PCR may be performed to monitor NF $\kappa$ B p65 gene expression knockdown using RT-PCR Primer: NF $\kappa$ B p65 (m)-PR: sc-29411-PR (20 µl, 414 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

# BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

### **RESEARCH USE**

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.