SANTA CRUZ BIOTECHNOLOGY, INC.

Jun B siRNA (m): sc-35727

BACKGROUND

The c-Jun proto-oncogene was first identified as the cellular homolog of the avian sarcoma virus v-Jun oncogene. The c-Jun protein, along with c-Fos, is a component of the AP-1 transcriptional complex. c-Jun can form either Jun/Jun homodimers or Jun/Fos heterodimers via the leucine repeats in both proteins. Homo- and heterodimers bind to the TGACTCA consensus sequence present in numerous promoters and initially identified as the phorbol ester tumor promoter response element (TRE). Two additional genes, Jun B and Jun D, have been shown to be almost identical to c-Jun in their C-terminal regions, which are involved in dimerization and DNA binding, whereas their N-terminal domains, which are involved in transcriptional activation, diverge. All three form heterodimers among themselves and with c-Fos and other members of the Fos gene family.

REFERENCES

1. Maki, Y., et al. 1987. Avian sarcoma virus 17 carries the Jun oncogene. Proc. Natl. Acad. Sci. USA 84: 2848-2852.
2. Nishimura, T., et al. 1988. The avian cellular homolog of the oncogene Jun. Oncogene 3: 659-663.
3. Ryder, K., et al. 1988. Induction of protooncogene c-Jun by serum growth factors. Proc. Natl. Acad. Sci. USA 85: 8464-8467.
4. Curran, T., et al. 1988. Fos and Jun: the AP-1 connection. Cell 55: 395-397.
5. Ryder, K., et al. 1989. Jun-D: a third member of the Jun gene family. Proc. Natl. Acad. Sci. USA 86: 1500-1503.
6. Hirai, S.I., et al. 1989. Characterization of Jun D: a new member of the Jun proto-oncogene family. EMBO J. 8: 1433-1439.

CHROMOSOMAL LOCATION

Genetic locus: Junb (mouse) mapping to 8 C3.

PRODUCT

Jun B 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 Jun B shRNA Plasmid (m): sc-35727-SH and Jun B shRNA (m) Lentiviral Particles: sc-35727-V as alternate gene silencing products.

For independent verification of Jun B (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-35727A, sc-35727B and sc-35727C.

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

Jun B siRNA (m) is recommended for the inhibition of Jun B 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.

GENE EXPRESSION MONITORING

Jun B (C-11): sc-8051 is recommended as a control antibody for monitoring of Jun B 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 Jun B gene expression knockdown using RT-PCR Primer: Jun B (m)-PR: sc-35727-PR (20 µl, 468 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhao, L., et al. 2010. Smurf1 inhibits mesenchymal stem cell proliferation and differentiation into osteoblasts through Jun B degradation. J. Bone Miner. Res. 25: 1246-1256.
2. Son, J.S., et al. 2011. Jun B and c-Rel cooperatively enhance Foxp3 expression during induced regulatory T cell differentiation. Biochem. Biophys. Res. Commun. 407: 141-147.
3. Hwang, J.S., et al. 2015. NFAT1 and Jun B cooperatively regulate IL-31 gene expression in $CD4^+$ T cells in health and disease. J. Immunol. 194: 1963-1974.

RESEARCH USE

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