SANTA CRUZ BIOTECHNOLOGY, INC.

Jun D siRNA (h): sc-35728

BACKGROUND

The activator protein-1 (AP-1) transcription factor consists of either Jun/Jun homodimers or Fos/Jun heterodimeric complexes. 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). 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. Studies suggest that the two forms of Jun D may be due to internal initiation of translation.

REFERENCES

1. Curran, T., et al. 1988. Fos and Jun: the AP-1 connection. Cell 55: 395-397.
2. Ryder, K., et al. 1988. Induction of proto-oncogene c-Jun by serum growth factors. Proc. Natl. Acad. Sci. USA 85: 8464-8467.
3. Cohen, D.R., et al. 1989. The product of a Fos-related gene, Fra-1, binds cooperatively to the AP-1 site with Jun: transcription factor AP-1 is comprised of multiple protein complexes. Genes Dev. 3: 173-184.
4. 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: JUND (human) mapping to 19p13.11.

PRODUCT

Jun D 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 Jun D shRNA Plasmid (h): sc-35728-SH and Jun D shRNA (h) Lentiviral Particles: sc-35728-V as alternate gene silencing products.

For independent verification of Jun D (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-35728A, sc-35728B and sc-35728C.

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 D siRNA (h) is recommended for the inhibition of Jun D 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

Jun D (D-9): sc-271938 is recommended as a control antibody for monitoring of Jun D 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 D gene expression knockdown using RT-PCR Primer: Jun D (h)-PR: sc-35728-PR (20 µl, 491 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Abdul-Hafez, A., et al. 2009. Jun D and HIF-1α mediate transcriptional activation of angiotensinogen by TGF-β1 in human lung fibroblasts. FASEB J. 23: 1655-1662.
2. Ouafik, L., et al. 2009. Adrenomedullin promotes cell cycle transit and upregulates cyclin D1 protein level in human glioblastoma cells through the activation of c-Jun/JNK/AP-1 signal transduction pathway. Cell. Signal. 21: 597-608.
3. Yeligar, S.M., et al. 2010. Ethanol-induced HO-1 and NQO1 are differentially regulated by HIF-1α and Nrf2 to attenuate inflammatory cytokine expression. J. Biol. Chem. 285: 35359-35373.
4. Mensah-Osman, E.J., et al. 2011. Menin and Jun D regulate gastrin gene expression through proximal DNA elements. Am. J. Physiol. Gastrointest. Liver Physiol. 301: G783-G790.
5. Kong, H.K., et al. 2012. The regulatory mechanism of the LY6K gene expression in human breast cancer cells. J. Biol. Chem. 287: 38889-38900.

RESEARCH USE

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