SANTA CRUZ BIOTECHNOLOGY, INC.

JDP2 siRNA (h): sc-38017

BACKGROUND

c-Jun dimerization protein (JDP) 2 binds cAMP-response element (CRE) as a homodimer or as a heterodimer with ATF-2 and c-Jun. This dimerization allows JDP2 to repress CRE-dependent transcription. JDP2 is phosphorylated by c-Jun N-terminal kinase at Thr 138. JDP2 contains a basic leucine zipper (bZIP) region for DNA-binding. The bZIP region of JDP2 interacts with the DNA-binding domain (DBD) of progesterone receptor (PR) in mammalian cells. Two other coactivators, creb binding protein (CBP) and p300 CBP-associated factor (PCAF), also associate with JDP2. Thus, JDP2 appears to stimulate the N-terminal activation function domain of PR by docking to the DBD and facilitation PR interaction with other coactivators. The expression of JDP2 in PR-targeted tissues and cells supports the role for JDP2 in PR function. In addition, JDP2 may play an important role in controlling the commitment of F9 embryonal carcinoma cells to differentiation. In undifferentiated F9 cells, JDP2 recruits HDAC3 and binds the differentiation response element within the c-jun promoter. Retinoic acid-induction replaces the JDP2/HDAC3 complex with PCAF and subsequently allows the transcription of c-Jun for F9 differentiation. The gene encoding human JDP2 maps to chromosome 14q24.3.

REFERENCES

1. Jin, C., et al. 2001. Identification of mouse Jun dimerization protein 2 as a novel repressor of ATF-2. FEBS Lett. 489: 34-41.
2. Piu, F., et al. 2001. AP-1 repressor protein JDP2: inhibition of UV-mediated apoptosis through p53 down-regulation. Mol. Cell. Biol. 21: 3012-3024.
3. Jin, C., et al. 2002. JDP2, a repressor of AP-1, recruits a histone deacetylase 3 complex to inhibit the retinoic acid-induced differentiation of F9 cells. Mol. Cell. Biol. 22: 4815-4826.

CHROMOSOMAL LOCATION

Genetic locus: JDP2 (human) mapping to 14q24.3.

PRODUCT

JDP2 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 JDP2 shRNA Plasmid (h): sc-38017-SH and JDP2 shRNA (h) Lentiviral Particles: sc-38017-V as alternate gene silencing products.

For independent verification of JDP2 (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-38017A, sc-38017B and sc-38017C.

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

JDP2 siRNA (h) is recommended for the inhibition of JDP2 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

JDP2 (3C1): sc-517133 is recommended as a control antibody for monitoring of JDP2 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 JDP2 gene expression knockdown using RT-PCR Primer: JDP2 (h)-PR: sc-38017-PR (20 µl, 486 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Aviner, R., et al. 2017. Proteomic analysis of polyribosomes identifies splicing factors as potential regulators of translation during mitosis. Nucleic Acids Res. 45: 5945-5957.

RESEARCH USE

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

PROTOCOLS

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