SANTA CRUZ BIOTECHNOLOGY, INC.

Josephin-3 siRNA (m): sc-146330

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The Power to Question

BACKGROUND

Josephin-3 (TATA box-binding protein-associated factor RNA polymerase I subunit D) is a 278 amino acid transcription factor encoded by the human TAF1D gene. The TAF1D gene product is a major component of a TBP and TAF's (TATA box-binding protein-associated factors) complex known as SL1. This SL1 complex is important for the assembly of the preinitiation complex required for RNA polymerase I-dependent transcription. The SL1/TIF-IB complex has been shown to stabilize the nucleolar transcription factor 1/UBTF on rDNA. Impaired function of the SL1 complex leads to reduced levels of Pol I transcription. The TAF1D gene product has been shown to be involved in cell cycle progression and exhibits G_2/M phase specific phosphorylations. The TAF1D gene product is expressed in most tissues and is localized to the nucleus.

REFERENCES

1. Rudloff, U., et al. 1994. TBP-associated factors interact with DNA and govern species specificity of RNA polymerase I transcription. EMBO J. 13: 2611-2616.
2. Geiduschek, E.P. and Kassavetis, G.A. 1995. Comparing transcriptional initiation by RNA polymerases I and III. Curr. Opin. Cell Biol. 7: 344-351.
3. Servant, N., et al. 2004. TBP-associated factor 1 overexpression induces tolerance to Doxorubicin in confluent H9c2 cells by an increase in cdk2 activity and cyclin E expression. Mol. Cell. Biochem. 259: 71-81.
4. Friedrich, J.K., et al. 2005. TBP-TAF complex SL1 directs RNA polymerase I pre-initiation complex formation and stabilizes upstream binding factor at the rDNA promoter. J. Biol. Chem. 280: 29551-29558.
5. Gorski, J.J., et al. 2007. A novel TBP-associated factor of SL1 functions in RNA polymerase I transcription. EMBO J. 26: 1560-1568.
6. Kimura, J., et al. 2008. A functional genome-wide RNAi screen identifies TAF1 as a regulator for apoptosis in response to genotoxic stress. Nucleic Acids Res. 36: 5250-5259.
7. Pijnappel, W.P., et al. 2009. Quantitative mass spectrometry of TATA binding protein-containing complexes and subunit phosphorylations during the cell cycle. Proteome Sci. 7: 46.
8. Mayya, V., et al. 2009. Quantitative phosphoproteomic analysis of T cell receptor signaling reveals system-wide modulation of protein-protein interactions. Sci. Signal. 2: ra46.

CHROMOSOMAL LOCATION

Genetic locus: Taf1d (mouse) mapping to 9 A2.

PRODUCT

Josephin-3 siRNA (m) is a target-specific 19-25 nt siRNA 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 Josephin-3 shRNA Plasmid (m): sc-146330-SH and Josephin-3 shRNA (m) Lentiviral Particles: sc-146330-V as alternate gene silencing products.

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

Josephin-3 siRNA (m) is recommended for the inhibition of Josephin-3 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

Josephin-3 (G-12): sc-514821 is recommended as a control antibody for monitoring of Josephin-3 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 Josephin-3 gene expression knockdown using RT-PCR Primer: Josephin-3 (m)-PR: sc-146330-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.