SANTA CRUZ BIOTECHNOLOGY, INC.

TIF1γ siRNA (m): sc-63128

BACKGROUND

Transcriptional intermediary factor 1-α (TIF1α) mediates transcriptional events by interactions with the AF2 region of several nuclear receptors, such as the estrogen, retinoic acid, and vitamin D_3 receptors. TIF1α localizes to nuclear bodies and is a member of the tripartite motif (TRIM) family. The TRIM motif includes three zinc-binding domains (RING, B-box type 1 and B-box type 2) and a coiled-coil region. TIF1β is also a member of the TRIM family that contains both a Cys/His PHD finger and bromodomain that form a cooperative unit required for transcriptional repression. TIF1β mediates transcriptional control by interaction with the Krüppel-associated box (KRAB) repression domain found in many transcription factors and by binding DNA via its zinc finger. TIF1γ has a similar structure to the previous two TRIM members, though it presents several functional differences. TIF1γ interacts with the Smad2/3 transcription factor in hematopoietic, mesenchymal, and epithelial cell types to mediate different transcriptional effects in response to TGFβ.

REFERENCES

1. Friedman, J., et al. 1996. KAP-1, a novel corepressor for the highly conserved KRAB repression domain. Genes Dev. 10: 2067-2078.
2. Moosmann, P., et al. 1996. Transcriptional repression by RING finger protein TIF1-β that interacts with the KRAB repressor domain of KOX1. Nucleic Acids Res. 24: 4859-4867.
3. Venturini, L., et al. 1999. TIF1γ, a novel member of the transcriptional intermediary factor 1 family. Oncogene 18: 1209-1217.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 601742. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Schultz, D., et al. 2001. Targeting histone deacetylase complexes via KRAB-zinc finger proteins: the PHD and bromodomains of KAP-1 form a cooperative unit that recruits a novel isoform of the Mi-2α subunit of NuRD. Genes Dev. 15: 428-443.
6. He, W., et al. 2006. Hematopoiesis controlled by distinct TIF1γ and Smad4 branches of the TGFβ pathway. Cell 125: 929-941.
7. Heldin, C.H., et al. 2006. A new twist in Smad signaling. Dev. Cell 10: 685-686.

CHROMOSOMAL LOCATION

Genetic locus: Trim33 (mouse) mapping to 3 F2.2.

PRODUCT

TIF1γ 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 TIF1γ shRNA Plasmid (m): sc-63128-SH and TIF1γ shRNA (m) Lentiviral Particles: sc-63128-V as alternate gene silencing products.

For independent verification of TIF1γ (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-63128A, sc-63128B and sc-63128C.

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

TIF1γ siRNA (m) is recommended for the inhibition of TIF1γ 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

TIF1γ (XX-19): sc-101179 is recommended as a control antibody for monitoring of TIF1γ 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 TIF1γ gene expression knockdown using RT-PCR Primer: TIF1γ (m)-PR: sc-63128-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.