SANTA CRUZ BIOTECHNOLOGY, INC.

TIF1α siRNA (h): sc-38548

BACKGROUND

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 thought to associate with chromatin and heterochromatin-associated factors. TIF1α 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. The TIF1α gene, which maps to human chromosome 7q33, encodes two alternatively spliced transcripts. However, the full length nature of one variant has not been determined. A TIF1α homolog (designated bonus) has been identified in *Drosophila* and is associated with several genes that are implicated in the ecdysone pathway, a nuclear hormone receptor pathway required throughout *Drosophila* development, suggesting a conserved functional role for the protein throughout the course of evolution.

REFERENCES

1. Fraser, R.A., et al. 1998. The putative cofactor TIF1α is a protein kinase that is hyperphosphorylated upon interaction with liganded nuclear receptors. J. Biol. Chem. 273: 16199-16204.
2. Nielsen, A.L., et al. 1999. Interaction with members of the heterochromatin protein 1 (HP1) family and histone deacetylation are differentially involved in transcriptional silencing by members of the TIF1 family. EMBO J. 18: 6385-6395.
3. Klugbauer, S., et al. 1999. The transcription coactivator HTIF1 and a related protein are fused to the RET receptor tyrosine kinase in childhood papillary thyroid carcinomas. Oncogene 18: 4388-4393.
4. Beckstead, R., et al. 2001. Bonus, a *Drosophila* homolog of TIF1 proteins, interacts with nuclear receptors and can inhibit βFTZ-F1-dependent transcription. Mol. Cell 7: 753-765.
5. LocusLink Report (LocusID: 8805). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: TRIM24 (human) mapping to 7q33.

PRODUCT

TIF1α 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 TIF1α shRNA Plasmid (h): sc-38548-SH and TIF1α shRNA (h) Lentiviral Particles: sc-38548-V as alternate gene silencing products.

For independent verification of TIF1α (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-38548A, sc-38548B and sc-38548C.

PROTOCOLS

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

TIF1α siRNA (h) is recommended for the inhibition of TIF1α 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

TIF1α (C-4): sc-271266 is recommended as a control antibody for monitoring of TIF1α 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 TIF1α gene expression knockdown using RT-PCR Primer: TIF1α (h)-PR: sc-38548-PR (20 µl, 512 bp). 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.