

TIF1 α siRNA (m): sc-38549

BACKGROUND

TIF1 α mediates transcriptional events by interactions with the AF2 region of several nuclear receptors, such as the estrogen, retinoic acid and vitamin D₃ receptors. TIF1 α localizes to nuclear bodies and is thought to associate with chromatin and heterochromatin-associated factors. TIF1 α 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 TIF1 α 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 TIF1 α 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

- Fraser, R.A., et al. 1998. The putative cofactor TIF1 α is a protein kinase that is hyperphosphorylated upon interaction with liganded nuclear receptors. *J. Biol. Chem.* 273: 16199-16204.
- 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.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: Trim24 (mouse) mapping to 6 B1.

PRODUCT

TIF1 α 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TIF1 α shRNA Plasmid (m): sc-38549-SH and TIF1 α shRNA (m) Lentiviral Particles: sc-38549-V as alternate gene silencing products.

For independent verification of TIF1 α (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-38549A, sc-38549B and sc-38549C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TIF1 α siRNA (m) is recommended for the inhibition of TIF1 α 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 μ M in 66 μ l. 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

TIF1 α (C-4): sc-271266 is recommended as a control antibody for monitoring of TIF1 α 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 TIF1 α gene expression knockdown using RT-PCR Primer: TIF1 α (m)-PR: sc-38549-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Ou, C.Y., et al. 2014. Coregulator cell cycle and apoptosis regulator 1 (CCAR1) positively regulates adipocyte differentiation through the glucocorticoid signaling pathway. *J. Biol. Chem.* 289: 17078-17086.

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.