



TIF1 β siRNA (m): sc-38551

BACKGROUND

TIF1 β , for transcriptional intermediary factor 1 β , also designated KAP1 (for KRAB-associated protein 1), TIF1 β and TRIM28 (for tripartite motif-containing 28), is a member of the tripartite motif family characterized by three zinc-binding domains, a RING finger, B-boxes and a coiled-coil domain. Like TIF1 α , TIF1 β contains both a Cys/His PHD (plant homeodomain) finger and bromodomain that form a cooperative unit required for transcriptional repression. TIF1 β mediates transcriptional control by interaction with the Krüppel-associated box (KRAB) repression domain found in many transcription factors and by binding DNA through its zinc finger. The human TIF1 β gene maps to human chromosome 19q13.43 and encodes an 835 amino acid nuclear protein.

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 KRX1. *Nucleic Acids Res.* 24: 4859-4867.
3. Gebelein, B. and Urrutia, R. 2001. Sequence-specific transcriptional repression by KS1, a multiple-zinc-finger-Krüppel-associated box protein. *Mol. Cell. Biol.* 21: 928-939.
4. 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-2 α subunit of NuRD. *Genes Dev.* 15: 428-443.

CHROMOSOMAL LOCATION

Genetic locus: Trim28 (mouse) mapping to 7 A1.

PRODUCT

TIF1 β 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 β shRNA Plasmid (m): sc-38551-SH and TIF1 β shRNA (m) Lentiviral Particles: sc-38551-V as alternate gene silencing products.

For independent verification of TIF1 β (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-38551A, sc-38551B and sc-38551C.

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 β siRNA (m) is recommended for the inhibition of TIF1 β 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 β (D-7): sc-515790 is recommended as a control antibody for monitoring of TIF1 β 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 β gene expression knockdown using RT-PCR Primer: TIF1 β (m)-PR: sc-38551-PR (20 μ l, 514 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Applebaum, N., et al. 2023. Phosphoproteome analysis of the crosstalk between sumoylation and phosphorylation in mouse spermatocytes. *Biochem. Biophys. Res. Commun.* 681: 194-199.

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.