SANTA CRUZ BIOTECHNOLOGY, INC.

TIP30 siRNA (m): sc-63132

BACKGROUND

TIP30 (30 kDa HIV-1 Tat-interacting protein), also known as HTATIP2 (HIV-1 TAT-interactive protein 2) or CC3, is a ubiquitously expressed protein that functions as an oxidoreductase. It acts as a tumor suppressor participating in metabolic suppression, inhibition of angiogenesis and induction of apoptosis. TIP30 interacts with the ERα-interacting co-activator NCoA-5 and functions to regulate liganded and unliganded ERα-mediated c-Myc transcription. More specifically, when overexpressed TIP30 represses c-Myc transcription mediated by ERα, while the deficiency of TIP30 leads to an increase in c-Myc transcription. In addition, TIP30 interacts with the activation domain of HIV-1 Tat and enhances its transcription by phosphorylating RNA polymerase II (Pol II). Defects in TIP30 are associated with hepatocellular carcinomas and apoptotic resistant tumor cells, suggesting a potential use for TIP30 in antitumor therapy.

REFERENCES

1. Ito, M., et al. 2003. TIP30 deficiency increases susceptibility to tumorigenesis. Cancer Res. 63: 8763-8767.
2. Jiang, C., et al. 2004. TIP30 interacts with an estrogen receptor α-interacting co-activator CIA and regulates c-Myc transcription. J. Biol. Chem. 279: 27781-27789.
3. Zhang, D.H., et al. 2005. Overexpression of CC3/TIP30 is associated with HER-2/Neu status in breast cancer. J. Cancer Res. Clin. Oncol. 131: 603-608.
4. El Omari, K., et al. 2005. Crystal structure of CC3 (TIP30): implications for its role as a tumor suppressor. J. Biol. Chem. 280: 18229-18236.
5. Shi, M., et al. 2005. TIP30 regulates apoptosis-related genes in its apoptotic signal transduction pathway. World J. Gastroenterol. 11: 221-227.
6. Pecha, J., et al. 2007. Deletion of TIP30 leads to rapid immortalization of murine mammary epithelial cells and ductal hyperplasia in the mammary gland. Oncogene 26: 7423-7431.

CHROMOSOMAL LOCATION

Genetic locus: Htatip2 (mouse) mapping to 7 B5.

PRODUCT

TIP30 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 TIP30 shRNA Plasmid (m): sc-63132-SH and TIP30 shRNA (m) Lentiviral Particles: sc-63132-V as alternate gene silencing products.

For independent verification of TIP30 (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-63132A, sc-63132B and sc-63132C.

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

TIP30 siRNA (m) is recommended for the inhibition of TIP30 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

TIP30 (F-10): sc-515728 is recommended as a control antibody for monitoring of TIP30 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 TIP30 gene expression knockdown using RT-PCR Primer: TIP30 (m)-PR: sc-63132-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.