SANTA CRUZ BIOTECHNOLOGY, INC.

TIPIN siRNA (h): sc-90290

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The Power to Question

BACKGROUND

TIPIN (Timeless interacting protein) is a 301 amino acid protein that localizes to both the nucleus and the cytoplasm and belongs to the CSM3 family. Expressed abundantly in liver, thymus, brain and gastrointestinal tract, TIPIN interacts with Timeless and is required for both normal cell cycle progression and for cell survival after DNA damage or replication stress. Additionally, TIPIN may be required to pass the ATR replication checkpoint that is induced by UV light or Hydroxyurea. Human TIPIN shares 72% amino acid identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding TIPIN maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Gotter, A.L. 2003. TIPIN, a novel timeless-interacting protein, is developmentally co-expressed with timeless and disrupts its self-association. J. Mol. Biol. 331: 167-176.
2. Chou, D.M. and Elledge, S.J. 2006. TIPIN and Timeless form a mutually protective complex required for genotoxic stress resistance and checkpoint function. Proc. Natl. Acad. Sci. USA 103: 18143-18147.
3. Kaufmann, W.K. 2007. Initiating the uninitiated: replication of damaged DNA and carcinogenesis. Cell Cycle 6: 1460-1467.
4. Yoshizawa-Sugata, N. and Masai, H. 2007. Human Tim/Timeless-interacting protein, TIPIN, is required for efficient progression of S phase and DNA replication checkpoint. J. Biol. Chem. 282: 2729-2740.
5. Gotter, A.L., et al. 2007. Mammalian Timeless and TIPIN are evolutionarily conserved replication fork-associated factors. J. Mol. Biol. 366: 36-52.
6. Unsal-Kaçmaz, K., et al. 2007. The human Tim/TIPIN complex coordinates an intra-S checkpoint response to UV that slows replication fork displacement. Mol. Cell. Biol. 27: 3131-3142.
7. Errico, A., et al. 2007. TIPIN is required for stalled replication forks to resume DNA replication after removal of aphidicolin in *Xenopus* egg extracts. Proc. Natl. Acad. Sci. USA 104: 14929-14934.

CHROMOSOMAL LOCATION

Genetic locus: TIPIN (human) mapping to 15q22.31.

PRODUCT

TIPIN 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 TIPIN shRNA Plasmid (h): sc-90290-SH and TIPIN shRNA (h) Lentiviral Particles: sc-90290-V as alternate gene silencing products.

For independent verification of TIPIN (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-90290A, sc-90290B and sc-90290C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

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

TIPIN (4C9): sc-135580 is recommended as a control antibody for monitoring of TIPIN 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 TIPIN gene expression knockdown using RT-PCR Primer: TIPIN (h)-PR: sc-90290-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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