SANTA CRUZ BIOTECHNOLOGY, INC.

TIS11B siRNA (m): sc-76673

BACKGROUND

TIS11B (tetradecanoyl phorbol acetate-inducible sequence 11b), also known as ZFP36L1, BRF1 (butyrate response factor 1), ERF1 (EGF response factor 1), cMG1, Berg36 or RNF162B, is a member of the tristetraprolin family. Tristetraprolin (TTP), or TIS11, is a zinc-binding protein encoded by the immediate-early response gene, Zfp-36. TIS11B, a relative of TTP, localizes to the nucleus and may function as a transcription factor involved in regulating the growth factor response. It is an evolutionarily conserved protein containing two C3H1-type zinc fingers and a repeating Cys-His motif. TIS11B is an mRNA binding protein and is known to interact with the 3'-untranslated region of VEGF mRNA, thereby decreasing its stability. This suggests that TIS11B is a potential target in antiangiogenic therapy. In addition, TIS11B may also be an important regulator of myogenesis, as its expression is upregulated during murine myoblast differentiation.

REFERENCES

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2. Kaneda, N., Oshima, M., Chung, S.Y. and Guroff, G. 1992. Sequence of a rat TIS11 cDNA, an immediate early gene induced by growth factors and phorbol esters. Gene 118: 289-291.
3. Johnson, B.A., Geha, M. and Blackwell, T.K. 2000. Similar but distinct effects of the tristetraprolin/TIS11 immediate-early proteins on cell survival. Oncogene 19: 1657-1664.
4. Johnson, B.A. and Blackwell, T.K. 2002. Multiple tristetraprolin sequence domains required to induce apoptosis and modulate responses to TNFα through distinct pathways. Oncogene 21: 4237-4246.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601064. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Ciais, D., Cherradi, N., Bailly, S., Grenier, E., Berra, E., Pouyssegur, J., Lamarre, J. and Feige, J.J. 2004. Destabilization of vascular endothelial growth factor mRNA by the zinc-finger protein TIS11b. Oncogene 23: 8673-8680.

CHROMOSOMAL LOCATION

Genetic locus: Zfp36l1 (mouse) mapping to 12 C3.

PRODUCT

TIS11B 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 TIS11B shRNA Plasmid (m): sc-76673-SH and TIS11B shRNA (m) Lentiviral Particles: sc-76673-V as alternate gene silencing products.

For independent verification of TIS11B (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-76673A, sc-76673B and sc-76673C.

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

TIS11B siRNA (m) is recommended for the inhibition of TIS11B 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

TIS11B (1A3): sc-293267 is recommended as a control antibody for monitoring of TIS11B 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 TIS11B gene expression knockdown using RT-PCR Primer: TIS11B (m)-PR: sc-76673-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.

PROTOCOLS

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