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SANTA CRUZ BIOTECHNOLOGY, INC.

TIEG1 siRNA (m): sc-45464

BACKGROUND

Originally isolated from osteoblastic cells, the TGFβ-inducible early gene-1 (TIEG1) is a Krupel-like zinc finger transcription factor-encoding gene which regulates cellular growth and differentiation. TIEG1 is regulated as an early response gene by TGFβ1. It is expressed in both acinar and ductular epithelial cells from exocrine pancreas and may serve as an early response gene in pancreatic cell lines. Further, overexpression of TIEG1 in TGFβ-sensitive epithelial cells induces apoptosis. TIEG1 and EGRα are expressed from alternate promoters of the same gene. Both are highly expressed in human fetal osteoblast cells. TIEG1 is additionally expressed at high levels in PBLs, spleen and colon, and at lower levels in thymus, small intestine, ovary, prostate and skeletal muscle. The nuclear TIEG2 protein, which shares significant homology with TIEG1, was originally isolated from globin-expressing human fetal erythroid cells. TIEG2 is also expressed in fetal liver. Overexpression of TIEG2 in cultured epithelial cells inhibits cellular proliferation. TIEG2 expression is upregulated by TGFβ1 and serum deprivation.

REFERENCES

1. Subramaniam, M., Harris, S.A., Oursler, M.J., Rasmussen, K., Riggs, B.L. and Spelsberg, T.C. 1995. Identification of a novel TGFβ-regulated gene encoding a putative zinc finger protein in human osteoblasts. Nucleic Acids Res. 23: 4907-4912.
2. Blok, L.J., Grossmann, M.E., Perry, J.E. and Tindall, D.J. 1995. Characterization of an early growth response gene, which encodes a zinc finger transcription factor, potentially involved in cell cycle regulation. Mol. Endocrinol. 9: 1610-1620.
3. Tachibana, I., Imoto, M., Adjei, P.N., Gores, G.J., Subramaniam, M., Spelsberg, T.C. and Urrutia, R. 1997. Overexpression of the TGFβ-regulated zinc finger encoding gene, TIEG, induces apoptosis in pancreatic epithelial cells. J. Clin. Invest. 99: 2365-2374.

CHROMOSOMAL LOCATION

Genetic locus: Klf10 (mouse) mapping to 15 B3.1.

SOURCE

TIEG1 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 TIEG1 shRNA Plasmid (m): sc-45464-SH and TIEG1 shRNA (m) Lentiviral Particles: sc-45464-V as alternate gene silencing products.

For independent verification of TIEG1 (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-45464A, sc-45464B and sc-45464C.

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

TIEG1 siRNA (m) is recommended for the inhibition of TIEG1 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

TIEG1 (95-D): sc-130408 is recommended as a control antibody for monitoring of TIEG1 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 TIEG1 gene expression knockdown using RT-PCR Primer: TIEG1 (m)-PR: sc-45464-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.