

Evi-1 siRNA (m): sc-37874

BACKGROUND

The Evi-1 proto-oncogene contains two zinc finger domains, the second of which is essential for transactivation of the c-Fos promoter and for AP-1 activation. The first zinc finger domain binds to Smad3, suppressing its activity and inhibiting TGF β signaling. The t(3;21)(q26;q22) chromosomal translocation produces a chimeric transcription factor, AML1/Evi-1, that appears to suppress the transactivation of AML-1, which is a stimulator of myeloid cell differentiation. Inappropriate Evi-1 gene expression in hematopoietic cells has been shown to be associated with acute myelogenous leukemia (AML) and myelodysplastic syndromes.

REFERENCES

1. Kreider, B.L., et al. 1993. Loss of erythropoietin responsiveness in erythroid progenitors due to expression of the Evi-1 myeloid-transforming gene. *Proc. Natl. Acad. Sci. USA* 90: 6454-6458.
2. Tanaka, T., et al. 1994. Evi-1 raises AP-1 activity and stimulates c-Fos promoter transactivation with dependence on the second zinc finger domain. *J. Biol. Chem.* 269: 24020-24026.
3. Tanaka, T., et al. 1995. Dual functions of the AML1/Evi-1 chimeric protein in the mechanism of leukemogenesis in t(3;21) leukemias. *Mol. Cell. Biol.* 15: 2383-2392.
4. Ogawa, S., et al. 1996. Abnormal expression of Evi-1 gene in human leukemias. *Hum. Cell* 9: 323-332.
5. Kurokawa, M., et al. 1998. The t(3;21) fusion product, AML1/Evi-1, interacts with Smad3 and blocks transforming growth factor- β -mediated growth inhibition of myeloid cells. *Blood* 92: 4003-4012.

CHROMOSOMAL LOCATION

Genetic locus: Mecom (mouse) mapping to 3 A3.

PRODUCT

Evi-1 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 Evi-1 shRNA Plasmid (m): sc-37874-SH and Evi-1 shRNA (m) Lentiviral Particles: sc-37874-V as alternate gene silencing products.

For independent verification of Evi-1 (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-37874A, sc-37874B and sc-37874C.

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

Evi-1 siRNA (m) is recommended for the inhibition of Evi-1 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

Evi-1 (H-8): sc-515456 is recommended as a control antibody for monitoring of Evi-1 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 Evi-1 gene expression knockdown using RT-PCR Primer: Evi-1 (m)-PR: sc-37874-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wei, W., et al. 2011. Biphasic and dosage-dependent regulation of osteoclastogenesis by β -catenin. *Mol. Cell. Biol.* 31: 4706-4719.

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.