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VEZF1 siRNA (m): sc-155100

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. VEZF1 (vascular endothelial zinc finger 1), also known as ZNF161 or DB1, is a nuclear localizing zinc-finger protein belonging to the Krüppel C₂H₂-type zinc-finger family. Expressed throughout the body with the highest level of expression found in the kidneys and skeletal muscle, VEZF1 is an endothelial transcription factor that regulates ET-1 (endothelin-1) promoter expression. Through its interaction with the CT/GC-rich region of the ET-1 promoter, VEZF1 helps to regulate proper assembly of the cardiovascular system during early development by activating the expression of various genes found in the vascular endothelium.

REFERENCES

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2. Lebowitz, P.F., et al. 1999. Functional interaction between Rho B and the transcription factor DB1. *Cell Adhes. Commun.* 6: 277-287.
3. Xiong, J.W., et al. 1999. VEZF1: a Zn finger transcription factor restricted to endothelial cells and their precursors. *Dev. Biol.* 206: 123-141.
4. Aitseaomo, J., et al. 2001. VEZF1/DB1 is an endothelial cell-specific transcription factor that regulates expression of the endothelin-1 promoter. *J. Biol. Chem.* 276: 39197-39205.
5. Lee, K.H., et al. 2004. Human zinc finger protein 161, a novel transcriptional activator of the dopamine transporter. *Biochem. Biophys. Res. Commun.* 313: 969-976.
6. Aitseaomo, J., et al. 2004. p68RacGAP is a novel GTPase-activating protein that interacts with vascular endothelial zinc finger-1 and modulates endothelial cell capillary formation. *J. Biol. Chem.* 279: 17963-17972.

CHROMOSOMAL LOCATION

Genetic locus: *Vezf1* (mouse) mapping to 11 C.

PRODUCT

VEZF1 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 VEZF1 shRNA Plasmid (m): sc-155100-SH and VEZF1 shRNA (m) Lentiviral Particles: sc-155100-V as alternate gene silencing products.

For independent verification of VEZF1 (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-155100A, sc-155100B and sc-155100C.

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 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

VEZF1 siRNA (m) is recommended for the inhibition of VEZF1 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

VEZF1 (B-4): sc-365560 is recommended as a control antibody for monitoring of VEZF1 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 VEZF1 gene expression knockdown using RT-PCR Primer: VEZF1 (m)-PR: sc-155100-PR (20 μ l). 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.