

Vgl-1 siRNA (m): sc-155101

BACKGROUND

The transcriptional enhancer factor-1 (TEF-1) family of transcription factors regulate tissue-specific gene expression in muscle and placenta. The mechanism whereby TEF-1 confers tissue specificity depends largely on the interaction of TEF-1 with tissue-specific cofactors. Transcription cofactor vestigial-like protein 1 (Vgl-1), also known as TONDU or TDU, is a TEF-1 cofactor that is critical for controlling tissue-specific gene activation of TEF-1. Vgl-1 interacts with TEF-1 through a conserved sequence known as the TONDU (TDU) motif. While Vgl-1 is expressed almost exclusively in placenta of adult human tissues, it is expressed more widely in human embryo tissues including kidney, lung, skeletal muscle, heart and placenta. Vgl-1 is 258 amino acids in length and localizes to the nucleus.

REFERENCES

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2. Maeda, T., et al. 2002. Mammalian vestigial-like 2, a cofactor of TEF-1 and MEF2 transcription factors that promotes skeletal muscle differentiation. *J. Biol. Chem.* 277: 48889-48898.
3. Mielcarek, M., et al. 2002. VITO-1, a novel vestigial related protein is predominantly expressed in the skeletal muscle lineage. *Mech. Dev.* 119: S269-S274.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300583. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Karasava, N., et al. 2003. Transcription enhancer factor 1 binds multiple muscle MEF2 and A/T-rich elements during fast-to-slow skeletal muscle fiber type transitions. *Mol. Cell. Biol.* 23: 5143-5164.
6. Chen, H.H., et al. 2004. Vgl-4, a novel member of the vestigial-like family of transcription cofactors, regulates α 1-adrenergic activation of gene expression in cardiac myocytes. *J. Biol. Chem.* 279: 30800-30806.
7. Mahoney, W.M., et al. 2005. The transcriptional co-activator TAZ interacts differentially with transcriptional enhancer factor-1 (TEF-1) family members. *Biochem. J.* 388: 217-225.
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CHROMOSOMAL LOCATION

Genetic locus: Vgll1 (mouse) mapping to X A5.

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.

PRODUCT

Vgl-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 Vgl-1 shRNA Plasmid (m): sc-155101-SH and Vgl-1 shRNA (m) Lentiviral Particles: sc-155101-V as alternate gene silencing products.

For independent verification of Vgl-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-155101A, sc-155101B and sc-155101C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Vgl-1 gene expression knockdown using RT-PCR Primer: Vgl-1 (m)-PR: sc-155101-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.