



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# Vgl-4 siRNA (m): sc-155104

## 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 Vgl-4 (vestigial-like protein 4) is a 290 amino acid nuclear protein that interacts with TEF-1 and MEF-2. Vgl-4 is the only member of the vestigial-like family that is expressed in heart. Overexpression of Vgl-4 in cardiac myocytes interferes with basal expression and  $\alpha$ 1-adrenergic receptor-dependent activation of a TEF-1 dependent skeletal  $\alpha$ -Actin promoter. This suggests that Vgl-4 counteracts  $\alpha$ 1-adrenergic activation of gene expression in cardiomyocytes. There are two isoforms of Vgl-4 that are produced as a result of alternative splicing events.

## REFERENCES

- Black, B.L. and Olson, E.N. 1998. Transcriptional control of muscle development by myocyte enhancer factor-2 (MEF2) proteins. *Annu. Rev. Cell Dev. Biol.* 14: 167-196.
- Naya, F.J. and Olson, E. 1999. MEF2: a transcriptional target for signaling pathways controlling skeletal muscle growth and differentiation. *Curr. Opin. Cell Biol.* 11: 683-688.
- Maeda, T., Chapman, D.L. and Stewart, A.F. 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.
- Chen, H.H., Maeda, T., Mullett, S.J. and Stewart, A.F. 2004. Transcription cofactor Vgl-2 is required for skeletal muscle differentiation. *Genesis* 39: 273-279.
- Chen, H.H., Mullett, S.J. and Stewart, A.F. 2004. Vgl-4, a novel member of the vestigial-like family of transcription cofactors, regulates  $\alpha$ 1-adrenergic activation of gene expression in cardiac myocytes. *J. Biol. Chem.* 279: 30800-30806.
- Mahoney, W.M., Hong, J.H., Yaffe, M.B. and Farrance, I.K. 2005. The transcriptional co-activator TAZ interacts differentially with transcriptional enhancer factor-1 (TEF-1) family members. *Biochem. J.* 388: 217-225.
- Mann, C.J., Osborn, D.P. and Hughes, S.M. 2007. Vestigial-like-2b (VITO-1b) and Tead-3a (Tef-5a) expression in zebrafish skeletal muscle, brain and notochord. *Gene Expr. Patterns* 7: 827-836.
- Yoshida, T. 2008. MCAT elements and the TEF-1 family of transcription factors in muscle development and disease. *Arterioscler. Thromb. Vasc. Biol.* 28: 8-17.

## CHROMOSOMAL LOCATION

Genetic locus: Vgll4 (mouse) mapping to 6 E3.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

Vgl-4 siRNA (m) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Vgl-4 shRNA Plasmid (m): sc-155104-SH and Vgl-4 shRNA (m) Lentiviral Particles: sc-155104-V as alternate gene silencing products.

For independent verification of Vgl-4 (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-155104A and sc-155104B.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Vgl-4 siRNA (m) is recommended for the inhibition of Vgl-4 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  $\mu$ M in 66  $\mu$ 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-4 gene expression knockdown using RT-PCR Primer: Vgl-4 (m)-PR: sc-155104-PR (20  $\mu$ l). 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.