SANTA CRUZ BIOTECHNOLOGY, INC.

Vgl-3 siRNA (h): sc-77945

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-3 (vestigial-like protein 3), also known as colon carcinoma related protein, is a 326 amino acid nuclear protein that may act as a specific coactivator for the mammalian transcription elongation factors. Both Vgl-1 and Vgl-3 are enriched in placenta, whereas Vgl-2 is expressed in differentiating somites and bran-chial arches during embryogenesis and is skeletal-muscle specific in adult tissues. There are two isoforms of Vgl-3 that are produced as a result of alternative splicing events.

REFERENCES

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2. Chen, H.H., et al. 2004. Transcription cofactor Vgl-2 is required for skeletal muscle differentiation. Genesis 39: 273-279.
3. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 14: 2121-2127.
4. Chen, H.H., et al. 2004. Vgl-4, a novel member of the vestigial-like family of transcription cofactors, regulates α1-adrenergic activation of gene expression in cardiac myocytes. J. Biol. Chem. 279: 30800-30806.
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6. 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.
7. Mielcarek, M., et al. 2009. VITO-2, a new SID domain protein, is expressed in the myogenic lineage during early mouse embryonic development. Gene Expr. Patterns 9: 129-137.

CHROMOSOMAL LOCATION

Genetic locus: VGLL3 (human) mapping to 3p12.1.

PRODUCT

Vgl-3 siRNA (h) 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 Vgl-3 shRNA Plasmid (h): sc-77945-SH and Vgl-3 shRNA (h) Lentiviral Particles: sc-77945-V as alternate gene silencing products.

For independent verification of Vgl-3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-77945A, sc-77945B and sc-77945C.

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

Vgl-3 siRNA (h) is recommended for the inhibition of Vgl-3 expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Vgl-3 gene expression knockdown using RT-PCR Primer: Vgl-3 (h)-PR: sc-77945-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.