SANTA CRUZ BIOTECHNOLOGY, INC.

Ovol2 siRNA (h): sc-76022

BACKGROUND

The Ovo family of zinc-finger transcription factors encode evolutionarily conserved genes including those from *Caenorhabditis elegans, Drosophila melanogaster,* mouse and human. Members of the Ovo family include Ovol1 and Ovol2. Ovol1 acts as a transcriptional repressor by interacting with key developmental signaling pathways such as Wnt and TGF-β/BMP. Specifically, Ovol1 represses c-Myc and Id2 genes and establishes a balance between proliferation and differentiation of progenitor cells. Deletion of Ovol1 in mice leads to germ cell degeneration and defective sperm production in adult males. Ovol1 has also been shown to repress itself as well as Ovol2, which is thought to regulate neural development and vascular angiogenesis during embryogenesis.

REFERENCES

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3. Mackay, D.R., Hu, M., Li, B., Rheaume, C. and Dai, X. 2006. The mouse Ovol2 gene is required for cranial neural tube development. Dev. Biol. 291: 38-52.
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5. Teng, A., Nair, M., Wells, J., Segre, J.A. and Dai, X. 2007. Strain-dependent perinatal lethality of Ovol1-deficient mice and identification of Ovol2 as a downstream target of Ovol1 in skin epidermis. Biochim. Biophys. Acta 1772: 89-95.
6. Unezaki, S., Horai, R., Sudo, K., Iwakura, Y. and Ito, S. 2007. Ovol2/Movo, a homologue of *Drosophila* Ovo, is required for angiogenesis, heart formation and placental development in mice. Genes Cells 12: 773-785.

CHROMOSOMAL LOCATION

Genetic locus: OVOL2 (human) mapping to 20p11.23.

PRODUCT

Ovol2 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 Ovol2 shRNA Plasmid (h): sc-76022-SH and Ovol2 shRNA (h) Lentiviral Particles: sc-76022-V as alternate gene silencing products.

For independent verification of Ovol2 (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-76022A, sc-76022B and sc-76022C.

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

Ovol2 siRNA (h) is recommended for the inhibition of Ovol2 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.

GENE EXPRESSION MONITORING

Ovol2 (E-9): sc-515001 is recommended as a control antibody for monitoring of Ovol2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Ovol2 gene expression knockdown using RT-PCR Primer: Ovol2 (h)-PR: sc-76022-PR (20 µl, 423 bp). 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.