

# DGCR14 siRNA (h): sc-77137

## BACKGROUND

DGCR14 (DiGeorge syndrome critical region 14, ES2 protein) is a 476 amino acid nuclear protein that belongs to the DGCR14 family. DGCR14 is believed to play a part in the etiology of the velocardiofacial/DiGeorge syndrome (VCF/DGS), a developmental disorder characterized by structural and functional palate anomalies, conotruncal cardiac malformations, immunodeficiency, hypocalcemia and typical facial anomalies. Most cases result from a deletion of chromosome 22q11.21 (DiGeorge syndrome chromosome region, or DGCR). This protein localizes to the nucleus and co-purifies with C complex spliceosomes.

## REFERENCES

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5. Wakamiya, M., Lindsay, E.A., Rivera-Perez, J.A., Baldini, A. and Behringer, R.R. 1998. Functional analysis of *Gscl* in the pathogenesis of the DiGeorge and velocardiofacial syndromes. *Hum. Mol. Genet.* 7: 1835-1840.
6. Hoogendoorn, B., Coleman, S.L., Guy, C.A., Smith, S.K., O'Donovan, M.C. and Buckland, P.R. 2004. Functional analysis of polymorphisms in the promoter regions of genes on 22q11. *Hum. Mutat.* 24: 35-42.

## CHROMOSOMAL LOCATION

Genetic locus: DGCR14 (human) mapping to 22q11.21.

## PRODUCT

DGCR14 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DGCR14 shRNA Plasmid (h): sc-77137-SH and DGCR14 shRNA (h) Lentiviral Particles: sc-77137-V as alternate gene silencing products.

For independent verification of DGCR14 (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-77137A, sc-77137B and sc-77137C.

## 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

DGCR14 siRNA (h) is recommended for the inhibition of DGCR14 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  $\mu$ 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.

## GENE EXPRESSION MONITORING

DGCR14 (C-9): sc-398472 is recommended as a control antibody for monitoring of DGCR14 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DGCR14 gene expression knockdown using RT-PCR Primer: DGCR14 (h)-PR: sc-77137-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.

## PROTOCOLS

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