SANTA CRUZ BIOTECHNOLOGY, INC.

DGS8 siRNA (h): sc-60529

BACKGROUND

DGS8, also designated DiGeorge syndrome critical region 8 protein, plays a role in the etiology of the velocardiofacial/DiGeorge syndrome (VCFS/DGS). It is a ubiquitously expressed protein encoded by the gene DGCR8, which is deleted in DiGeorge syndrome. DiGeorge syndrome is characterized by structural and functional palate anomalies, conotruncal cardiac malformations, immunodeficiency, hypocalcemia, and typical facial anomalies. In mouse, DGS8 is detected primarily in embryonic brain, vessels, thymus and palate.

REFERENCES

1. Shiohama, A., et al. 2003. Molecular cloning and expression analysis of a novel gene DGCR8 located in the DiGeorge syndrome chromosomal region. Biochem. Biophys. Res. Commun. 304: 184-190.
2. Baldini, A. 2004. DiGeorge syndrome: an update. Curr. Opin. Cardiol. 19: 201-204.
3. Han, J., et al. 2004. The Drosha-DGCR8 complex in primary microRNA processing. Genes Dev. 18: 3016-3027.
4. Landthaler, M., et al. 2004. The human DiGeorge syndrome critical region gene 8 and its *D. melanogaster* homolog are required for miRNA biogenesis. Curr. Biol. 14: 2162-2167.
5. Goldmuntz, E. 2005. DiGeorge syndrome: new insights. Clin. Perinatol. 32: 963-978.
6. Gregory, R.I., et al. 2005. MicroRNA biogenesis and cancer. Cancer Res. 65: 3509-3512.

CHROMOSOMAL LOCATION

Genetic locus: DGCR8 (human) mapping to 22q11.21.

PRODUCT

DGS8 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 DGS8 shRNA Plasmid (h): sc-60529-SH and DGS8 shRNA (h) Lentiviral Particles: sc-60529-V as alternate gene silencing products.

For independent verification of DGS8 (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-60529A, sc-60529B and sc-60529C.

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

DGS8 siRNA (h) is recommended for the inhibition of DGS8 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

DGS8 (E-10): sc-377249 is recommended as a control antibody for monitoring of DGS8 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 DGS8 gene expression knockdown using RT-PCR Primer: DGS8 (h)-PR: sc-60529-PR (20 µl, 446 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2023. The ubiquitin-specific protease USP36 associates with the microprocessor complex and regulates miRNA biogenesis by SUMOylating DGCR8. Cancer Res. Commun. 3: 459-470.

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.