SANTA CRUZ BIOTECHNOLOGY, INC.

DGCR2 siRNA (m): sc-143023

BACKGROUND

DGCR2 (DiGeorge syndrome critical region gene 2), also known as IDD (integral membrane protein, deleted in DGS) is a 550 amino acid single-pass membrane protein that primarily functions as an adhesion receptor and is thought to be involved in cell-matrix or cell-cell interactions, therefore playing an important role in cell migration and differentiation. Due to the chromosomal location of the gene encoding DGCR2, it is suspected that a defect in this gene is involved in the pathogenesis of Digeorge syndrome, also known as velocardiofacial syndrome, which is a complex syndrome involving multiple organs with symptoms such as cardiac defects, cleft palate and a characteristic facial appearance. The chromosomal region of 22q11.21 is also frequently found deleted in schizophrenic patients, suggesting that downregulation of DGCR2 may be implicated in the disease.

REFERENCES

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2. Demczuk, S., et al. 1995. Cloning of a balanced translocation breakpoint in the DiGeorge syndrome critical region and isolation of a novel potential adhesion receptor gene in its vicinity. Hum. Mol. Genet. 4: 551-558.
3. Wadey, R., et al. 1995. Isolation of a gene encoding an integral membrane protein from the vicinity of a balanced translocation breakpoint associated with DiGeorge syndrome. Hum. Mol. Genet. 4: 1027-1033.
4. Taylor, C., et al. 1997. Cloning and mapping of murine DGCR2 and its homology to the SEZ-12 seizure-related protein. Mamm. Genome 8: 371-375.
5. Van Esch, H., et al. 1999. Partial DiGeorge syndrome in two patients with a 10p rearrangement. Clin. Genet. 55: 269-276.
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7. Shifman, S., et al. 2006. A complete genetic association scan of the 22q11 deletion region and functional evidence reveal an association between DGCR2 and schizophrenia. Hum. Genet. 120: 160-170.
8. Ishiguro, H., et al. 2008. Replication study for associations between polymorphisms in the CLDN5 and DGCR2 genes in the 22q11 deletion syndrome region and schizophrenia. Psychiatr. Genet. 18: 255-256.

CHROMOSOMAL LOCATION

Genetic locus: Dgcr2 (mouse) mapping to 16 A3.

PRODUCT

DGCR2 siRNA (m) is a target-specific 19-25 nt siRNA 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 DGCR2 shRNA Plasmid (m): sc-143023-SH and DGCR2 shRNA (m) Lentiviral Particles: sc-143023-V as alternate gene silencing products.

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

DGCR2 siRNA (m) is recommended for the inhibition of DGCR2 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 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 DGCR2 gene expression knockdown using RT-PCR Primer: DGCR2 (m)-PR: sc-143023-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.