

ZIM2 siRNA (h): sc-97308

BACKGROUND

ZIM2 (zinc finger, imprinted 2) is a 527 amino acid protein that localizes in the nucleus and may be involved in regulating transcription. Containing five C₂H₂-type zinc fingers and one KRAB domain, ZIM2 is expressed at highest levels in adult testis and at moderate levels in fetal kidney and brain. ZIM2 belongs to the Krüppel C₂H₂-type zinc-finger protein family and is encoded by a gene mapping to human chromosome 19. Consisting of around 63 million bases with over 1,400 genes, chromosome 19 makes up over 2% of human genomic DNA. Chromosome 19 includes a diversity of interesting genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG families, and Fcα receptors. Key genes for eye color and hair color also map to chromosome 19. Peutz-Jeghers syndrome, spinocerebellar ataxia type 6, the stroke disorder CADASIL, hypercholesterolemia and Insulin-dependent diabetes have been linked to chromosome 19. Translocations with chromosome 19 and chromosome 14 can be seen in some lymphoproliferative disorders and typically involve the proto-oncogene BCL3.

REFERENCES

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2. Teglund, S., et al. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. *Genomics* 23: 669-684.
3. Wang, L., et al. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. *Clin. Cancer Res.* 6: 2988-2993.
4. Kim, J., et al. 2000. Exon sharing of a novel human zinc-finger gene, ZIM2, and paternally expressed gene 3 (PEG3). *Genomics* 64: 114-118.
5. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
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CHROMOSOMAL LOCATION

Genetic locus: ZIM2 (human) mapping to 19q13.43.

PRODUCT

ZIM2 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 ZIM2 shRNA Plasmid (h): sc-97308-SH and ZIM2 shRNA (h) Lentiviral Particles: sc-97308-V as alternate gene silencing products.

For independent verification of ZIM2 (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-97308A, sc-97308B and sc-97308C.

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

ZIM2 siRNA (h) is recommended for the inhibition of ZIM2 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 ZIM2 gene expression knockdown using RT-PCR Primer: ZIM2 (h)-PR: sc-97308-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.