SANTA CRUZ BIOTECHNOLOGY, INC.

# Glut9 siRNA (h): sc-105399

## BACKGROUND

Glucose serves as the major energy substrate of mammalian cells and is fundamental to metabolism. Glucose passage across cell membranes is mediated by a family of transporters termed glucose transporters or Gluts which are characterized by the presence of 12 membrane-spanning helices. Facilitated glucose transport is the rate-limiting step in glucose metabolism. The Glut family is divided into three subfamilies: class I (previously known as glucose transporters), which includes Glut1, Glut2, Glut3 and Glut4; class II (previously known as fructose transporters), which includes Glut5, Glut7, Glut9 and Glut11; class III, which includes Glut6, Glut8, Glut10, Glut12 and the myo-inositol transporter HMIT1). Glut9, also known as SLCA9 is expressed in liver and kidney and at lower levels in placenta, lung, peripheral blood leukocytes, heart and skeletal muscle. Glut9 is associated with medullary thyroid carcinomas and pheochromocytomas. The gene encoding human Glut9 maps to chromosome 4p16.1.

## REFERENCES


1. Phay, J., et al. 2000. Strategy for identification of novel glucose transporter family members by using internet-based genomic databases. Surgery 128: 946-951.
2. Phay, J., et al. 2000. Cloning and expression analysis of a novel member of the facilitative glucose transporter family, SLCA9 (Glut9). Genomics 66: 217-220.
3. Shikhman, A., et al. 2001. Cytokine regulation of facilitated glucose transport in human articular chondrocytes. J. Immunol. 167: 7001-7008.
4. Joost, H. and Thorens, B. 2001. The extended Glut-family of sugar/polyol transport facilitators: nomenclature, sequence characteristics, and function of its novel members (review). Mol. Membr. Biol. 18: 247-256.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606142. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Augustin, R., et al. 2004. Identification and characterization of human glucose transporter-like protein-9 (Glut9): alternative splicing alters trafficking. J. Biol. Chem. 279: 16229-16236.


## CHROMOSOMAL LOCATION

Genetic locus: SLC2A9 (human) mapping to 4p16.1.

## PRODUCT

Glut9 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 Glut9 shRNA Plasmid (h): sc-105399-SH and Glut9 shRNA (h) Lentiviral Particles: sc-105399-V as alternate gene silencing products.

For independent verification of Glut9 (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-105399A, sc-105399B and sc-105399C.

## 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

Glut9 siRNA (h) is recommended for the inhibition of Glut9 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 Glut9 gene expression knockdown using RT-PCR Primer: Glut9 (h)-PR: sc-105399-PR (20 µl, 429 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.