SANTA CRUZ BIOTECHNOLOGY, INC.

Glut11 siRNA (h): sc-75148

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The Power to Question

BACKGROUND

Glut11 (glucose transporter type 11) is also referred to as SLC2A11 (solute carrier family 2 (facilitated glucose transporter), member 11) or GLUT10 and is a 469 amino acid protein that is expressed as three isoforms. Glut11 is primarily found in heart and skeletal muscle at the transcription level. Glut11 belongs to the glucose transporter subfamily of sugar transporting plasma membrane proteins that facilitate the transport of hexose sugars across the membrane. Glut11 is a multi-pass membrane protein that is capable of transporting glucose but may also bind fructose with higher affinity than glucose, making fructose an inhibitor of glucose transportation. The transport of hexose sugars across the membrane is thought to be important for normal joint growth and repair, suggesting that Glut proteins play an essential role in proper joint development.

REFERENCES

1. Sasaki, T., et al. 2001. Molecular cloning of a member of the facilitative glucose transporter gene family Glut11 (SLC2A11) and identification of transcription variants. Biochem. Biophys. Res. Commun. 289: 1218-1224.
2. Doege, H., et al. 2001. Characterization of human glucose transporter (Glut) 11 (encoded by SLC2A11), a novel sugar-transport facilitator specifically expressed in heart and skeletal muscle. Biochem. J. 359: 443-449.
3. Wu, X., et al. 2002. Cloning and characterization of glucose transporter 11, a novel sugar transporter that is alternatively spliced in various tissues. Mol. Genet. Metab. 76: 37-45.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610367. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Gaster, M., et al. 2004. Glut11, but not Glut8 or Glut12, is expressed in human skeletal muscle in a fibre type-specific pattern. Pflugers Arch. 448: 105-113.
6. Goggs, R., et al. 2005. Nutraceutical therapies for degenerative joint diseases: a critical review. Crit. Rev. Food Sci. Nutr. 45: 145-164.

CHROMOSOMAL LOCATION

Genetic locus: SLC2A11 (human) mapping to 22q11.23.

PRODUCT

Glut11 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 Glut11 shRNA Plasmid (h): sc-75148-SH and Glut11 shRNA (h) Lentiviral Particles: sc-75148-V as alternate gene silencing products.

For independent verification of Glut11 (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-75148A, sc-75148B and sc-75148C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Glut11 siRNA (h) is recommended for the inhibition of Glut11 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 Glut11 gene expression knockdown using RT-PCR Primer: Glut11 (h)-PR: sc-75148-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.