SANTA CRUZ BIOTECHNOLOGY, INC.

glypican-6 siRNA (m): sc-145459

BACKGROUND

The glypicans are a family of glycosylphosphatidylinositol-anchored heparan sulfate proteoglycans that are involved in the control of cell growth and division. Glypican-6, also known as GPC6, is a 555 amino acid protein that exists as both a lipid-anchored cell membrane peptide, as well as a secreted protein that is released into the extracellular space. Expressed ubiquitously with highest expression in liver, kidney, colon, ovary and small intestine, glypican-6 functions as a cell surface receptor that is thought to bind to a variety of proteins, including growth factors, proteases and extracellular matrix proteins. The gene encoding glypican-6 maps to human chromosome 13q31.3, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

1. Paine-Saunders, S., Viviano, B.L. and Saunders, S. 1999. GPC6, a novel member of the glypican gene family, encodes a product structurally related to GPC4 and is colocalized with GPC5 on human chromosome 13. Genomics 57: 455-458.
2. Veugelers, M., De Cat, B., Ceulemans, H., Bruystens, A.M., Coomans, C., Dürr, J., Vermeesch, J., Marynen, P. and David, G. 1999. Glypican-6, a new member of the glypican family of cell surface heparan sulfate proteoglycans. J. Biol. Chem. 274: 26968-26977.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604404. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Filmus, J. 2001. Glypicans in growth control and cancer. Glycobiology 11: 19R-23R.
5. De Cat, B. and David, G. 2001. Developmental roles of the glypicans. Semin. Cell Dev. Biol. 12: 117-125.
6. Bassett, J.H., Swinhoe, R., Chassande, O., Samarut, J. and Williams, G.R. 2006. Thyroid hormone regulates heparan sulfate proteoglycan expression in the growth plate. Endocrinology 147: 295-305.
7. Filmus, J., Capurro, M. and Rast, J. 2008. Glypicans. Genome Biol. 9: 224.

CHROMOSOMAL LOCATION

Genetic locus: Gpc6 (mouse) mapping to 14 E4.

PRODUCT

glypican-6 siRNA (m) 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 glypican-6 shRNA Plasmid (m): sc-145459-SH and glypican-6 shRNA (m) Lentiviral Particles: sc-145459-V as alternate gene silencing products.

For independent verification of glypican-6 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-145459A, sc-145459B and sc-145459C.

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

glypican-6 siRNA (m) is recommended for the inhibition of glypican-6 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 glypican-6 gene expression knockdown using RT-PCR Primer: glypican-6 (m)-PR: sc-145459-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.