SANTA CRUZ BIOTECHNOLOGY, INC.

XylT-II siRNA (m): sc-61820

BACKGROUND

Xylosyltransferase-I (XylT-I), also designated UDP-D-xylose:proteoglycan core protein β-D-xylosyltransferase 1, is a glycoprotein that catalyzes the transfer of UDP-xylose to serine residues within XT recognition sequences of target proteins. Addition of xylose to the core protein is a requirement for the biosynthesis of the glycosaminoglycan chains that are characteristic of proteoglycans. Xylosyltransferase proteins, which can be secreted, display activity in sternal cartilage chondrocytes, chondrosarcoma, nasal septum tumor and choriocarcinoma cells. XYIT-I is widely expressed, with higher levels of expression detected in placenta, kidney and pancreas, and lower levels of expression observed in skeletal muscle. Xylosyltransferase-II (XylT-II), also designated UDP-D-xylose:proteoglycan core protein β-D-xylosyltransferase 2, is also widely expressed, with higher levels of expression detected in kidney and pancreas.

REFERENCES

1. Götting, C., et al. 2004. Analysis of the DXD motifs in human xylosyltransferase I required for enzyme activity. J. Biol. Chem. 279: 42566-42573.
2. Schön, S., et al. 2005. Impact of polymorphisms in the genes encoding Xylosyltransferase I and a homologue in type 1 diabetic patients with and without nephropathy. Kidney Int. 68: 1483-1490.
3. Götting, C., et al. 2005. Elevated xylosyltransferase I activities in pseudoxanthoma elasticum (PXE) patients as a marker of stimulated proteoglycan biosynthesis. J. Mol. Med. 83: 984-992.
4. Kuhn, J., et al. 2005. Xylosyltransferase I acceptor properties of fibroblast growth factor and its fragment bFGF. Biochem. Biophys. Res. Commun. 333: 156-166.
5. Schöttler, M., et al. 2005. Serum not affected by renal insufficiency. Clin. Biochem. 38: 486-488.
6. Müller, S., et al. 2006. Human Xylosyltransferase I and N-terminal truncated forms: functional characterization of the core enzyme. Biochem. J. 394 : 163-171.
7. Müller, S., et al. 2005. Human Xylosyltransferase I: functional and biochemical characterization of cysteine residues required for enzymic activity. Biochem. J. 386: 227-236.

CHROMOSOMAL LOCATION

Genetic locus: Xylt2 (mouse) mapping to 11 D.

PRODUCT

XylT-II 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 XylT-II shRNA Plasmid (m): sc-61820-SH and XylT-II shRNA (m) Lentiviral Particles: sc-61820-V as alternate gene silencing products.

For independent verification of XylT-II (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-61820A, sc-61820B and sc-61820C.

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

XylT-II siRNA (m) is recommended for the inhibition of XylT-II 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.

GENE EXPRESSION MONITORING

XylT-II (G-1): sc-374134 is recommended as a control antibody for monitoring of XylT-II gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor XylT-II gene expression knockdown using RT-PCR Primer: XylT-II (m)-PR: sc-61820-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.