

β-1,4-Gal-T2 siRNA (h): sc-78915

BACKGROUND

The β-1,4-Gal-T2 gene, which maps to chromosome 1p34.1 in human and 4 D2.1 in mouse, is one of seven β-1,4-galactosyltransferase (β-1,4-Gal-T) genes. These genes encode type II membrane-bound glycoproteins that appear to have exclusive specificity for the donor substrate UDP-galactose. These protein products transfer galactose in a β-1,4 linkage to similar acceptor sugars, such as GlcNAc, Glc and Xyl. These type II membrane glycoproteins have an N-terminal hydrophobic signal sequence that directs the protein to the Golgi apparatus and remains uncleaved to function as a transmembrane anchor. β-1,4-Gal-T2 (β-1,4-galactosyltransferase 2), also known as UDP-galactose:β-N-acetylglucosamine β-1,4-galactosyltransferase 2, is a 372 amino acid protein that is highly expressed in prostate, testis, ovary, intestine, muscle and fetal brain. β-1,4-Gal-T2 is responsible for the synthesis of complex-type N-linked oligosaccharides in many glycoproteins. Two isoforms of β-1,4-Gal-T2 exist as a result of alternative splicing events.

REFERENCES

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- Lo, N.W., et al. 1998. The expanding β-4-galactosyltransferase gene family: messages from the databanks. *Glycobiology* 8: 517-526.
- Amado, M., et al. 1999. Identification and characterization of large galactosyltransferase gene families: galactosyltransferases for all functions. *Biochim. Biophys. Acta* 1473: 35-53.
- Guo, S., et al. 2001. Galactosylation of N-linked oligosaccharides by human β-1,4-galactosyltransferases I, II, III, IV, V, and VI expressed in Sf-9 cells. *Glycobiology* 11: 813-820.
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CHROMOSOMAL LOCATION

Genetic locus: B4GALT2 (human) mapping to 1p34.1.

PRODUCT

β-1,4-Gal-T2 siRNA (h) is a pool of 2 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 β-1,4-Gal-T2 shRNA Plasmid (h): sc-78915-SH and β-1,4-Gal-T2 shRNA (h) Lentiviral Particles: sc-78915-V as alternate gene silencing products.

For independent verification of β-1,4-Gal-T2 (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-78915A and sc-78915B.

PROTOCOLS

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

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

β-1,4-Gal-T2 siRNA (h) is recommended for the inhibition of β-1,4-Gal-T2 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 β-1,4-Gal-T2 gene expression knockdown using RT-PCR Primer: β-1,4-Gal-T2 (h)-PR: sc-78915-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.