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# GalNAc-TL4 siRNA (m): sc-145315

## BACKGROUND

The UDP-N-acetyl- $\alpha$ -D-galactosamine:polypeptide N-acetylgalactosaminyltransferase (GalNAc-T) family of enzymes are substrate-specific proteins that catalyze the transfer of GalNAc (N-acetylgalactosaminyl) to serine and threonine residues onto various proteins, thereby initiating mucin-type O-linked glycosylation in Golgi apparatus. GalNAc-TL4, also known as LGALS14 or polypeptide GalNAc transferase-like protein 4, is a 607 amino acid single-pass type II membrane protein belonging to the glycosyltransferase 2 family and GalNAc-T subfamily. Localizing to Golgi apparatus, GalNAc-TL4 utilizes manganese and calcium as cofactors and may assist with the transfer of N-acetyl-D-galactosamine to a serine or threonine residue on protein receptors. GalNAc-TL4 likely catalyzes the initial reaction in O-linked oligosaccharide biosynthesis and contains a ricin B-type lectin domain, which binds to GalNAc and contributes to glycopeptide specificity, and two conserved domains located in the glycosyltransferase region. The N-terminal domain, also known as domain A or GT1 motif, may be involved in manganese coordination and substrate binding while the C-terminal domain, also known as domain B or Gal/GalNAc-T motif, is likely involved in catalytic reaction and UDP-Gal binding. GalNAc-TL4 exists as two alternatively spliced isoforms.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Galnt18 (mouse) mapping to 7 F1.

## PRODUCT

GalNAc-TL4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GalNAc-TL4 shRNA Plasmid (m): sc-145315-SH and GalNAc-TL4 shRNA (m) Lentiviral Particles: sc-145315-V as alternate gene silencing products.

For independent verification of GalNAc-TL4 (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-145315A, sc-145315B and sc-145315C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

GalNAc-TL4 siRNA (m) is recommended for the inhibition of GalNAc-TL4 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  $\mu$ M in 66  $\mu$ l. 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 GalNAc-TL4 gene expression knockdown using RT-PCR Primer: GalNAc-TL4 (m)-PR: sc-145315-PR (20  $\mu$ l). 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.