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GalNAc-T4 siRNA (m): sc-145312

BACKGROUND

The UDP-N-acetyl- α -D-galactosamine:polypeptide N-acetylgalactosaminyltransferase (GalNAc-T) family of enzymes are substrate-specific proteins that catalyze the transfer of GalNAc (N-acetylgalactosamine) to serine and threonine residues onto various proteins, thereby initiating mucin-type O-linked glycosylation in the Golgi apparatus. GalNAc-T4 (polypeptide N-acetylgalactosaminyltransferase 4), also known as UDP-GalNAc:polypeptide N-acetylgalactosaminyltransferase 4, is a 578 amino acid protein that displays high enzymatic activity toward Muc7, Muc2 and EA2. GalNAc-T4 also glycosylates PSGL-1 on threonine 57. Its N-terminal domain is involved in substrate binding and manganese coordination, while the C-terminal domain is involved in UDP-Gal binding and catalytic reaction. Though ubiquitously expressed, GalNAc-T4 is found at highest levels in mucosal cells.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Galnt4 (mouse) mapping to 10 C3.

PRODUCT

GalNAc-T4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GalNAc-T4 shRNA Plasmid (m): sc-145312-SH and GalNAc-T4 shRNA (m) Lentiviral Particles: sc-145312-V as alternate gene silencing products.

For independent verification of GalNAc-T4 (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-145312A, sc-145312B and sc-145312C.

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

APPLICATIONS

GalNAc-T4 siRNA (m) is recommended for the inhibition of GalNAc-T4 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 μ M in 66 μ 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-T4 gene expression knockdown using RT-PCR Primer: GalNAc-T4 (m)-PR: sc-145312-PR (20 μ 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.