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CD75 siRNA (h): sc-42804

BACKGROUND

Modification of cell surface glycoprotein and glycolipid oligosaccharides is thought to play a role in tumorigenesis and metastasis. Sialyltransferases catalyze the incorporation of sialic acid into the carbohydrate chains present on glycoproteins and function in intracellular terminal glycosylation pathways. The expression of one such sialyltransferase, CD75, (also known as ST6GAL1), leads to the appearance of the cell surface antigens CD76, HB-6 and CDw75. Expressed in the Golgi apparatus and secreted into the extracellular fluid, CD75 is a type II membrane protein that is involved in generating sialylated antigens that function as cell-surface carbohydrate determinants. One such antigen, CDw75 (also known as CD75s or CD75-sialylated), is formed via the catalytic transfer of a sialic acid residue from CD75 to a cell surface galactose-containing carbohydrate acceptor. While CD75 functions in cells throughout the body, CDw75 is found primarily on B and T cells and may be upregulated in B cell leukemias, suggesting a possible role for CDw75 in carcinogenesis.

REFERENCES

1. Epstein, A.L., et al. 1987. Two new monoclonal antibodies, Lym-1 and Lym-2, reactive with human B-lymphocytes and derived tumors, with immunodiagnostic and immunotherapeutic potential. *Cancer Res.* 47: 830-840.
2. Stamenkovic, I., et al. 1991. The B lymphocyte adhesion molecule CD22 interacts with leukocyte common antigen CD45RO on T cells and α 2-6 sialyltransferase, CD75, on B cells. *Cell* 66: 1133-1144.
3. Erikstein, B.K., et al. 1992. Cell cycle-dependent regulation of CDw75 (β -galactoside α -2,6-sialyltransferase) on human B lymphocytes. *Eur. J. Immunol.* 2: 1149-1155.
4. Bast, B.J., et al. 1992. The HB6, CDw75, and CD76 differentiation antigens are unique cell-surface carbohydrate determinants generated by the β -galactoside α 2,6-sialyltransferase. *J. Cell Biol.* 116: 423-435.
5. De Lau, W.B., et al. 1993. HB4 antibody recognizes a carbohydrate structure on lymphocyte surface proteins related to HB6, CDw75, and CD76 antigens. *J. Immunol.* 150: 4911-4919.

CHROMOSOMAL LOCATION

Genetic locus: ST6GAL1 (human) mapping to 3q27.3.

PRODUCT

CD75 siRNA (h) 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 CD75 shRNA Plasmid (h): sc-42804-SH and CD75 shRNA (h) Lentiviral Particles: sc-42804-V as alternate gene silencing products.

For independent verification of CD75 (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-42804A, sc-42804B and sc-42804C.

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

CD75 siRNA (h) is recommended for the inhibition of CD75 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 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.

GENE EXPRESSION MONITORING

CD75 (B-L5): sc-65306 is recommended as a control antibody for monitoring of CD75 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CD75 gene expression knockdown using RT-PCR Primer: CD75 (h)-PR: sc-42804-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.

PROTOCOLS

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