

CD24 siRNA (h): sc-29978

BACKGROUND

CD24 is a GPI-linked membrane sialoglycoprotein expressed on pro-B, pre-B and mature B cells, and its expression is decreased after B cell activation. CD24 is also found on granulocytes and a small fraction of thymocytes and neuroblastomas, but not on plasma cells. CD24 may play a role in the regulation of B cell proliferation and differentiation and is expressed in hematological malignancies as well as in a large variety of solid tumors. A shift from apical localization to cytoplasmic staining of CD24 is a surrogate marker of stromal invasion in ovarian serous tumors of borderline malignancy. CD24 protein can be a B cell differentiation marker that is expressed on mature resting B cells and disappears upon stimulation.

REFERENCES

1. Kemshead, J.T., et al. 1982. Monoclonal antibodies defining markers with apparent selectivity for particular haemopoietic cell types may also detect antigens on cells of neural crest origin. *Hybridoma* 1: 109-123.
2. Hsu, S.M., et al. 1984. Phenotypic expression of B lymphocytes. Identification with monoclonal antibodies in normal lymphoid tissues. *Am. J. Pathol.* 114: 387-395.
3. Fischer, G.F., et al. 1990. Signal transduction in lymphocytic and myeloid cells via CD24, a new member of phosphoinositol-anchored membrane molecules. *J. Immunol.* 144: 638-641.
4. Kay, R., et al. 1991. CD24, a signal transducer modulating B cell activation responses, is a very short peptide with a glycosyl-phosphatidylinositol membrane anchor. *J. Immunol.* 147: 1412-1416.

CHROMOSOMAL LOCATION

Genetic locus: CD24 (human) mapping to 6p25.3.

PRODUCT

CD24 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 CD24 shRNA Plasmid (h): sc-29978-SH and CD24 shRNA (h) Lentiviral Particles: sc-29978-V as alternate gene silencing products.

For independent verification of CD24 (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-29978A, sc-29978B and sc-29978C.

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

CD24 siRNA (h) is recommended for the inhibition of CD24 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

CD24 (SN3): sc-19585 is recommended as a control antibody for monitoring of CD24 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CD24 gene expression knockdown using RT-PCR Primer: CD24 (h)-PR: sc-29978-PR (20 μ l, 459 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Keerathichamroen, S., et al. 2011. Expression of CD24 in cholangiocarcinoma cells is associated with disease progression and reduced patient survival. *Int. J. Oncol.* 39: 873-881.
2. Skowron, M.A., et al. 2021. The signal transducer CD24 suppresses the germ cell program and promotes an ectodermal rather than mesodermal cell fate in embryonal carcinomas. *Mol. Oncol.* E-published.

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.