SANTA CRUZ BIOTECHNOLOGY, INC.

CD74 siRNA (h2): sc-42802

BACKGROUND

The human histocompatibility leukocyte antigen (HLA) class II-associated invariant chain is composed of at least four polypeptides. One of these polypeptide chains is expressed as a membrane-bound subunit and has been designated CD74. The loading of peptide onto the class II MHC protein (MHC II) appears to be regulated by CD74, which associates with MHC II during its migration to the endosomal compartment, where class II binds peptide. CD74 is expressed by cells of both T lymphocyte and B lymphocyte lineages. In fact, CD74 is broadly expressed in normal B lymphocytes, regardless of their histocompatibility leukocyte antigen (HLA) phenotype, while a subset of peripheral T lymphocytes that are MHC II negative do not express CD74.

REFERENCES

1. McMaster, W.R., et al. 1979. Identification of Ia glycoproteins in rat thymus and purification from rat spleen. Eur. J. Immunol. 9: 426-433.
2. Sarker, A.B., et al. 1992. *Bauhinia purpurea*—a new paraffin section marker for Reed-Sternberg cells of Hodgkin's disease. A comparison with Leu-M1 (CD15), LN2 (CD74), peanut agglutinin, and Ber-H2 (CD30). Am. J. Pathol. 141: 19-23.
3. Wilson, K.M., et al. 1993. Cell-surface expression of human histocompatibility leucocyte antigen (HLA) class II-associated invariant chain (CD74) does not always correlate with cell-surface expression of HLA class II molecules. Immunology 79: 331-335.
4. Lu, Y., et al. 1994. Retinoblastoma protein regulation of surface CD74 (invariant chain) expression in breast carcinoma cells. Mol. Immunol. 31: 1365-1368.
5. Henne, C., et al. 1995. Surface expression of the invariant chain (CD74) is independent of concomitant expression of major histocompatibility complex class II antigens. Immunology 84: 177-182.
6. Shih, N.Y., et al. 1995. Invariant chain (CD74) gene regulation: enhanced expression associated with activation of protein kinase C δ in a murine B lymphoma cell line. Mol. Immunol. 32: 643-650.
7. Loachim, H.L., et al. 1996. Lymphoid monoclonal antibodies reactive with lung tumors. Am. J. Surg. Pathol. 20: 64-71.

CHROMOSOMAL LOCATION

Genetic locus: CD74 (human) mapping to 5q32.

PRODUCT

CD74 siRNA (h2) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD74 shRNA Plasmid (h2): sc-42802-SH and CD74 shRNA (h2) Lentiviral Particles: sc-42802-V as alternate gene silencing products.

For independent verification of CD74 (h2) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-42802A, sc-42802B and sc-42802C.

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.

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

CD74 siRNA (h2) is recommended for the inhibition of CD74 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.

GENE EXPRESSION MONITORING

CD74 (LN-2): sc-6262 is recommended as a control antibody for monitoring of CD74 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CD74 gene expression knockdown using RT-PCR Primer: CD74 (h2)-PR: sc-42802-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.