SANTA CRUZ BIOTECHNOLOGY, INC.

CD74 siRNA (h): sc-35023

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The Power to Question

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.

CHROMOSOMAL LOCATION

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

PRODUCT

CD74 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD74 shRNA Plasmid (h): sc-35023-SH and CD74 shRNA (h) Lentiviral Particles: sc-35023-V as alternate gene silencing products.

For independent verification of CD74 (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-35023A, sc-35023B and sc-35023C.

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 (h) 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.

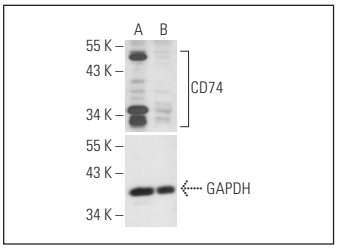
GENE EXPRESSION MONITORING

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).

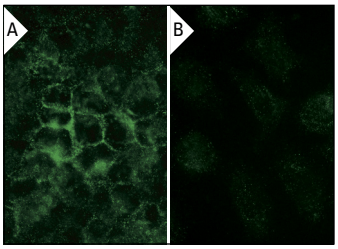
RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CD74 gene expression knockdown using RT-PCR Primer: CD74 (h)-PR: sc-35023-PR (20 µl, 456 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



CD74 siRNA (h): sc-35023. Western blot analysis of CD74 expression in non-transfected control (**A**) and CD74 siRNA transfected (**B**) HeLa cells. Blot probed with CD74 (FL-296): sc-20082. GAPDH (FL-335): sc-25778 used as specificity and loading control.



CD74 siRNA (h): sc-35023. Immunofluorescence staining of methanol-fixed, control HeLa (**A**) and CD74 siRNA silenced HeLa (**B**) cells showing diminished membrane staining in the siRNA silenced cells. Cells probed with CD74 (By2): sc-20062.

SELECT PRODUCT CITATIONS

1. Meyer-Siegler, K.L., et al. 2006. Inhibition of macrophage migration inhibitory factor or its receptor (CD74) attenuates growth and invasion of DU-145 prostate cancer cells. J. Immunol. 177: 8730-8739.
2. Fujiwara, N., et al. 2010. A screening method tuned for mRNA processing factors in human cells by evaluation of the luciferase reporter activity and the subcellular distribution of bulk poly(A)+ RNA. Biosci. Biotechnol. Biochem. 74: 1512-1516.
3. Metodieva, G., et al. 2013. CD74-dependent deregulation of the tumor suppressor scribble in human epithelial and breast cancer cells. Neoplasia 15: 660-668.
4. Uhlenbrock, F., et al. 2014. The NKG2D ligand ULBP2 is specifically regulated through an invariant chain-dependent endosomal pathway. J. Immunol. 193: 1654-1665.
5. De, R., et al. 2018. Macrophage migration inhibitory factor regulates mitochondrial dynamics and cell growth of human cancer cell lines through CD74-NFκB signaling. J. Biol. Chem. 293: 19740-19760.
6. Ssadh, H.A., et al. 2019. Knockdown of CD74 in the proliferative and apoptotic activity of breast cancer cells. Open Access Maced. J. Med. Sci. 7: 3169-3176.

RESEARCH USE

For research use only, not for use in diagnostic procedures.