



# CD23 siRNA (m): sc-29977

## BACKGROUND

The human leukocyte differentiation antigen CD23 (FCE2) is a type II integral membrane glycoprotein that is expressed on mature B cells, monocytes, eosinophils, platelets and dendritic cells. In mouse, CD23 is found only on mature B cells. CD23 is a low affinity IgE receptor that mediates IgE-dependent cytotoxicity and phagocytosis by macrophages and eosinophils. CD23 associates as an oligomer where cooperative binding of at least two lectin domains is required for high affinity IgE binding to CD23. It may play a role in antigen presentation by B cells by interacting with CD40. CD23 has been shown to be associated with the Fyn tyrosine kinase. The truncated molecule can be secreted, then function as a potent mitogenic growth factor. ADAM8, ADAM15, and MDC-L catalyze ectodomain shedding of CD23. Intestinal cells coexpress CD23a and CD23b, and the two splice forms show different localizations in polarized cells.

## REFERENCES

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- Sugie, K., et al. 1991. Fyn tyrosine kinase associated with Fc  $\epsilon$  RII/CD23: possible multiple roles in lymphocyte activation. *Proc. Natl. Acad. Sci. USA* 88: 9132-9135.
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- Sutton, B.J., et al. 1993. The human IgE network. *Nature* 366: 421-428.
- Yu, P., et al. 1994. Negative feedback regulation of IgE synthesis by murine CD23. *Nature* 369: 753-756.
- Yasui, T., et al. 1996. The roles of CD42 and CD23 in IgE regulation. *Adv. Exp. Med. Biol.* 409: 349-354.

## CHROMOSOMAL LOCATION

Genetic locus: Fc $\epsilon$ 2a (mouse) mapping to 8 A1.1.

## PRODUCT

CD23 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CD23 shRNA Plasmid (m): sc-29977-SH and CD23 shRNA (m) Lentiviral Particles: sc-29977-V as alternate gene silencing products.

For independent verification of CD23 (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-29977A, sc-29977B and sc-29977C.

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

## APPLICATIONS

CD23 siRNA (m) is recommended for the inhibition of CD23 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  $\mu$ M in 66  $\mu$ 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

CD23 (BU38): sc-58995 is recommended as a control antibody for monitoring of CD23 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 CD23 gene expression knockdown using RT-PCR Primer: CD23 (m)-PR: sc-29977-PR (20  $\mu$ l, 461 bp). 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](http://www.scbt.com) for detailed protocols and support products.