

# CD23 (HD50): sc-18910

## 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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- Gordon, J., et al. 1991. Inhibition of interleukin-4 promoted CD23 production in human B lymphocytes by transforming growth factor  $\beta$ , interferons or anti-CD19 antibody is overridden on engaging CD40. *Eur. J. Immunol.* 21: 1917-1922.
- 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.
- Maekawa, N., et al. 1992. Induction of Fc  $\epsilon$  RII/CD23 on PHA-activated human peripheral blood T lymphocytes and association of Fyn tyrosine kinase with Fc  $\epsilon$  RII/CD23. *Int. J. Tissue React.* 14: 121-130.
- Sutton, B., 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.
- Cho, S.W., et al. 1997. B cell activation and Ig, especially IgE, production is inhibited by high CD23 levels *in vivo* and *in vitro*. *Cell. Immunol.* 10: 36-46.

## CHROMOSOMAL LOCATION

Genetic locus: FCER2 (human) mapping to 19p13.2.

## SOURCE

CD23 (HD50) is a mouse monoclonal antibody raised against cells from a patient suffering from B-non-Hodgkin-lymphoma of human origin.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking, sc-18910 L, 200  $\mu$ g/0.1 ml.

CD23 (HD50) is available conjugated to either phycoerythrin (sc-18910 PE) or fluorescein (sc-18910 FITC), 200  $\mu$ g/ml, for IF, IHC(P) and FCM.

## APPLICATIONS

CD23 (HD50) is recommended for detection of CD23 of human origin by immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells).

Suitable for use as control antibody for CD23 siRNA (h): sc-29976, CD23 shRNA Plasmid (h): sc-29976-SH and CD23 shRNA (h) Lentiviral Particles: sc-29976-V.

Molecular Weight of soluble CD23: 37 kDa.

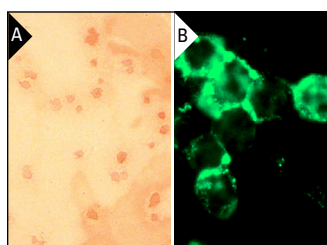
Molecular Weight of CD23 membrane: 45 kDa.

## RECOMMENDED SUPPORT REAGENTS

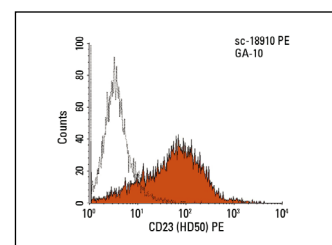
To ensure optimal results, the following support reagents are recommended:

1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CD23 (HD50): sc-18910. Immunoperoxidase staining of formalin-fixed human platelet smear (A) and immunofluorescence staining of methanol-fixed GA-10 cells (B) showing membrane localization.



CD23 (HD50) PE: sc-18910 PE. FCM analysis of GA-10 cells. Black line histogram represents the isotype control, normal mouse IgG<sub>2b</sub>-PE: sc-2868.

## SELECT PRODUCT CITATIONS

- Wang, L., et al. 2016. Follicular dendritic cell sarcoma of the spleen: a case report and review of the literature. *Oncol. Lett.* 12: 2062-2064.

## RESEARCH USE

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