

# Monoclonal Antibody CD4

PN IM0398 – Purified – Freeze-dried – 0.2 mg – Clone 13B8.2

For Research Use Only. Not for use in diagnostic procedures.

## SPECIFICITY

The CD4 antigen is a monomeric transmembrane glycoprotein of 60 kDa that is expressed on a specific subset of peripheral blood T lymphocytes named "helper / inducer" (1). The CD4 antigen is present on approximately 45% of peripheral blood lymphocytes (T4 lymphocytes), 80% of thymocytes and with a lower density on 100% of monocytes and on some neutrophils (2, 3).

CD4 acts as an accessory molecule to the T cell receptor (TcR) complex during T-cell activation restricted to the Class II major histocompatibility complex (MHC) (3). The T lymphocyte subset that expresses CD4 is involved in T-T, T-B, and B-macrophage cellular interactions (4).

The monoclonal antibody (mAb) 13B8.2 recognizes an epitope situated on the Ig-like V1 region of the CD4 antigen. A study of the epitopic map, using mutations targeting the extra-cytoplasmic regions of the molecule has shown that fixation of mAb 13B8.2 was only affected when the mutation involved the 88 and/or 89 residues (1). MAb13B8.2 was assigned to CD4 during the 3rd HLDA Workshop on Human Leucocyte Differentiation Antigens, Oxford, England in 1986 (WS Code : 501, Section : T) (5).

## REAGENT

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<b>Clone</b>	13B8.2
<b>Isotype</b>	IgG1, mouse
<b>Immunogen</b>	Human thymocytes
<b>Hybridoma</b>	NS1 x Balb/c spleen cells
<b>Source</b>	Ascites fluid
<b>Purification</b>	Ion exchange or affinity chromatography
<b>Buffer</b>	1 mg/mL bovine serum albumin in phosphate-buffered saline

## APPLICATION

Studies of CD4 expressing cells.

## STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use antibody beyond the expiration date on the label.
4. Avoid microbial contamination of reagents or incorrect results might occur.
5. Use good laboratory practices when handling this reagent.

## STORAGE CONDITIONS AND STABILITY

This freeze-dried form may be stored at 2 – 8°C until the expiration date stated on the vial label.

No preservative has been added.

## REAGENT PREPARATION

Depending of usage, reconstitute with 1 mL of distilled water, with or without 0.1% sodium azide (w/v).

The reconstituted form including 0.1% sodium azide may be stored for up to one month at 2 – 8°C.

The reconstituted form without sodium azide can be stored at –20°C or less, until the expiration date stated on the vial label.

In this case, aliquotting is recommended to avoid multiple freezing / thawing cycles.

## PROCEDURE

For each application, it is recommended to establish the right range of antibody dilutions to be used for the experiment.

## SELECTED RESEARCH REFERENCES

1. Sprent, J, "T lymphocytes and the thymus", 1989, in *Fundamental Immunology*, 2nd edition, Paul, W.E., Ed., Raven Press, p. 69-93.
2. Hannet, I., Erkeller-Yuksel, F., Lydyard, P., Deneys, V., DeBruyère, M., "Developmental and maturational changes in human blood lymphocyte subpopulations", 1992, *Immunol. Today*, 13, 215-218.
3. Micelli, M.C., Parnes, J.R., "The role of CD4 and CD8 in T cell activation", 1991, *Semin. Immunol.*, 3, 133-141.
4. van Aghoven, A., Terhorst, C., Reinherz, E.L., Schlossman, S.F., 1981, "Characterization of T cell surface glycoproteins T1 and T3 present on all human peripheral T lymphocytes and functional mature T lymphocytes", *Eur. J. Immunol.*, 11, 18-21.
5. Taylor, G.M., Williams, A., Morten, J., Morten, H., "Analysis of CD4 monoclonal antibodies using human X mouse hybrid cell-lines OKT4", 1987, *Leucocyte Typing III, White Cell Differentiation Antigens*, A.J. McMichael, p. 234-238.

## PRODUCT AVAILABILITY

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For additional information in the USA, call 800-526-7694.

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