

Monoclonal Antibody CD3

PN IM0178 – Purified – Freeze-dried – 0.2 mg – Clone X35

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

SPECIFICITY

The CD3 antigen is a protein complex, which consists of 5 polypeptide chains (γ , δ , ϵ , ζ , η) linked to TCR. These chains are composed by a group of two invariant dimers, γ - ϵ and δ - ϵ associated with a variable dimer which consists of ζ homodimers, or ζ - η , or ζ - γ FcR heterodimers, or γ FcR homodimers (γ FcR is the γ chain of the Fc receptors) (1, 2, 3). The CD3 antigen is expressed only on T lymphocytes and on a sub-population of thymocytes (4, 5).

The CD3 complex associated with the TcR is involved in the recognition of peptides bound to the major histocompatibility complex I and II (MHC) during the immune response (5). X35 is a monoclonal antibody which recognizes the CD3 antigen expressed on the mature T lymphocytes.

It also has a mitogenic effect on T lymphocytes and does not react with those T cells, defined by E Rosette technique, lacking the T-cell receptor.

X35 mAb was assigned to CD3 during the 3rd HLDA workshop on Human Leucocyte Differentiation Antigens, held in Oxford, England, in 1986 (6, 7).

REAGENT

Monoclonal Antibody CD3

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Clone	X35
Isotype	IgG2a
Immunogen	Human peripheral blood lymphocytes
Hybridoma	Myeloma SP2/o. Ag 1.4 x Balb/c
Species	Mouse
Source	ascites fluid
Purification	Protein A affinity chromatography

REAGENT CONTENTS

1 mg/ml bovine serum albumin in phosphate buffered saline.

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.

- Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
- Do not use reagent beyond the expiration date on the vial label.
- Avoid microbial contamination of reagent or erroneous results may occur.
- Use good laboratory practices when handling this reagent.

STORAGE CONDITIONS AND STABILITY

This reagent is stable up to the expiration date on the vial label when stored at 2 – 8°C. The reconstituted form may be stored at – 20°C until the expiration date. Aliquotting is suggested to avoid multiple freeze-thaw cycles. The addition of sodium azide at 0.1% (w/v) is recommended for storage of the reconstituted form for up to one month at 2 – 8°C. Minimize exposure to light and warmth.

REAGENT PREPARATION

Reconstitute with 1 mL of distilled water. No preservative has been added.

APPLICATIONS

Studies of identification and enumeration of mature T cells in peripheral blood. Studies of T-cell functions.

Immunohistochemistry: This antibody is only suitable on frozen sections or cell smears.

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

SELECTED RESEARCH REFERENCES

- Thibault, G., Bardos, P., "Compared TCR and CD3 ϵ expression on $\alpha\beta$ and $\gamma\delta$ cells. Evidence for the association of two TCR heterodimers with three CD3 ϵ chains in the TCR/CD3 complex", 1995, J. Immunol., 154, 3814-3820,

- Shores, E.W., Love, P.E., "TCR ζ -chain in T cell development and selection", 1997, Cur. Opin. Immunol., 9, 380-389.
- Ono, S., Ohno, H., Saito, T., "Rapid turnover of the CD3 ζ chain independent of the TCR-CD3 complex in normal T cells", 1995, Immunity, 2, 639-644.
- Julius, M., Maroun, C.R., Haughn, L., "Distinct roles for CD4 and CD8 as co-receptors in antigen receptor signalling", 1993, Immunol. Today, 4, 14, 177-183.
- van Aghoven, A., Terhorst, C., Reinherz, E.L., Schlossman, S.F., "Characterization of T cell surface glycoproteins T1 and T3 present on all human peripheral T lymphocytes and functional mature T lymphocytes", 1981, Eur. J. Immunol., 11, 18-21.
- Hall, C., Alarcon, B., Berkhout, B., Clevers, H., Georgopoulos, K., Gold, D., Pettey, C., Van den Elsen, P., Wileman, T. & Terhorst, C., 1987, in "Leucocyte Typing III-White Cell Differentiation Antigens", 889-895.
- Gorog, G., Batory, G., Lanza Vecchia, A., 1987 in Leucocyte Typing III. Mc Michael A.J. Editor Oxford University Press 157-160.

PRODUCT AVAILABILITY

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

Outside the USA, contact your local Beckman Coulter representative.

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