

Product No. A-9936

Lot 035H8824

**Monoclonal Anti-Terminal Deoxynucleotidyl Transferase
Alkaline Phosphatase Conjugate**
Purified Mouse Immunoglobulin
Clone 8-1 E4

Monoclonal Anti-Terminal Deoxynucleotidyl Transferase (TdT) (mouse IgG1 isotype) is derived from a hybridoma produced by the fusion of mouse myeloma cells and splenocytes from an immunized mouse. Bovine TdT was used as the immunogen. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is prepared by conjugation of alkaline phosphatase with purified anti-TdT monoclonal antibody. Column chromatography is used to remove any unreacted antibody or alkaline phosphatase. The conjugate is provided as a solution in 0.05 M Tris, 1 mM MgCl₂, 0.1 mM ZnCl₂, 50% glycerol, pH 8.0, containing 1% BSA with 0.1% sodium azide (see MSDS)* as a preservative.

Specificity

Monoclonal Anti-TdT (clone 8-1 E4) recognizes the intracellular enzyme terminal deoxynucleotidyl transferase, a 58 kD protein. The product reacts with T lymphoblast cell line 8402 (GM3639A), but not with normal human peripheral blood lymphocytes in immunohistological staining.

Immunoglobulin Concentration: 0.5 mg/ml

Working Dilution

A dilution of 1:50 was determined by direct immunohistology using positive MOLT-4 cells expressing the TdT antigen.

In order to obtain best results in different preparations, it is recommended that each individual user determine their optimum working dilutions by titration assay.

Description

TdT is a non-template directed DNA polymerase that catalyses the irreversible addition of deoxynucleotides to the 3'-hydroxy groups on single stranded DNA molecules. The physiological function of TdT has not been determined. Activity of this enzyme is thought to play a role in the generation of genetic diversity in T and B cell receptor genes. Normal TdT expression is anatomically restricted to the cortical area of the thymus, immature thymocytes and about 2% of normal bone marrow cells representing primitive stem cells. TdT expression outside these two normal categories has

been shown to be a consistent feature of certain leukemias, including ALL, T-ALL, some cases of CML and Pre-B-ALL. TdT is not expressed in the majority of myeloid leukemias, Non-Hodgkins lymphomas or mature lymphoid leukemias.

Uses

Alkaline Phosphatase Conjugated Monoclonal Anti-TdT may be used to:

1. Study the development and maturation of T and B lymphocytes.
2. Identify immature lymphoid precursors, acute lymphoblastic leukemias, lymphoblastic lymphomas and many chronic granulocytic leukemias.

Storage

Store at 2-8°C. **Do Not Freeze.**

If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

*Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

References

1. Bollum, F., J. Biol. Chem, **237**, 1945 (1962).
2. Collman, M., et al., Proc. Natl. Acad. Sci. USA, **71**, 4404 (1974).
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4. Greenwood, M., et al., J. Clin. Inv., **59**, 889 (1977).
5. McCaffrey, R., et al., Proc. Natl. Acad. Sci. USA, **70**, 521 (1973).
6. Sarin, P. and Gallo, R., J. Biol. Chem., **249**, 8051 (1974).
7. Syrjala, M., et al., Amer. J. Clin. Path., **99**, 298 (1993).

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