

TdT (B-9): sc-398238

BACKGROUND

Terminal deoxynucleotidyltransferase (TdT) is a DNA polymerase which catalyzes the addition of deoxyribonucleotides onto the 3'-hydroxyl end of DNA primers without template direction. The enzyme thus provides a unique method for the labeling of the 3' termini of DNA. The human TdT gene maps to chromosome 10q24.1 and encodes a 510 amino acid protein. Human TdT is synthesized as a single chain peptide that elicits a minor preference for incorporation of deoxyribonucleotides over ribonucleotides forming DNA strands. TdT is present in immature thymocytes, some bone marrow cells, transformed pre-B and pre-T cell lines, and leukemia cells.

REFERENCES

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2. Marshall, A.J., et al. 1998. Terminal deoxynucleotidyl transferase expression during neonatal life alters D_H reading frame usage and Ig-receptor-dependent selection of V regions. *J. Immunol.* 161: 6657-6663.
3. Nourrit, F., et al. 1999. Methylation of the promoter region may be involved in tissue-specific expression of the mouse terminal deoxynucleotidyl transferase gene. *J. Mol. Biol.* 292: 217-227.
4. Aono, A., et al. 2000. Forced expression of terminal deoxynucleotidyl transferase in fetal thymus resulted in a decrease in $\gamma\delta$ T cells and random dissemination of V γ 3V δ 1 T cells in skin of newborn but not adult mice. *Immunology* 99: 489-497.
5. Feeney, A.J., et al. 2001. Terminal deoxynucleotidyl transferase deficiency decreases autoimmune disease in MRL-Fas^{lpr} mice. *J. Immunol.* 167: 3486-3493.
6. Boule, J.B., et al. 2001. Terminal deoxynucleotidyl transferase indiscriminately incorporates ribonucleotides and deoxyribonucleotides. *J. Biol. Chem.* 276: 31388-31393.
7. Mahajan, K.N., et al. 2003. Role of human Pso4 in mammalian DNA repair and association with terminal deoxynucleotidyl transferase. *Proc. Natl. Acad. Sci. USA* 100: 10746-10751.
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CHROMOSOMAL LOCATION

Genetic locus: DNNT (human) mapping to 10q24.1; Dntt (mouse) mapping to 19 C3.

SOURCE

TdT (B-9) is a mouse monoclonal antibody raised against amino acids 450-509 mapping at the C-terminus of TdT of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TdT (B-9) is recommended for detection of TdT of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TdT siRNA (h): sc-44143, TdT siRNA (m): sc-72058, TdT shRNA Plasmid (h): sc-44143-SH, TdT shRNA Plasmid (m): sc-72058-SH, TdT shRNA (h) Lentiviral Particles: sc-44143-V and TdT shRNA (m) Lentiviral Particles: sc-72058-V.

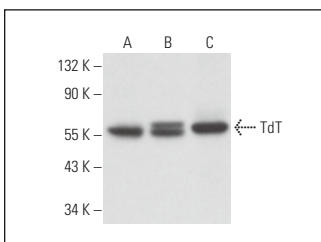
Molecular Weight of TdT: 58 kDa.

Positive Controls: TdT (h2): 293T Lysate: sc-170212, MOLT-4 cell lysate: sc-2233 or Jurkat nuclear extract: sc-2132.

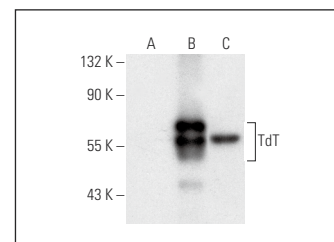
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TdT (B-9): sc-398238. Western blot analysis of TdT expression in Jurkat nuclear extract (A), MOLT-4 whole cell lysate (B) and rat thymus tissue extract (C).



TdT (B-9): sc-398238. Western blot analysis of TdT expression in non-transfected: sc-117752 (A) and human TdT transfected: sc-170212 (B) 293T whole cell lysates and Jurkat nuclear extract (C).

STORAGE

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