

TdT (h2): 293T Lysate: sc-170212

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

1. Bentolila, L.A., et al. 1997. Constitutive expression of terminal deoxynucleotidyl transferase in transgenic mice is sufficient for N region diversity to occur at any Ig locus throughout B cell differentiation. *J. Immunol.* 158: 715-723.
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.
8. Peralta-Zaragoza, O., et al. 2004. Terminal deoxynucleotidyl transferase is downregulated by Ap-1-like regulatory elements in human lymphoid cells. *Immunology* 111: 195-203.

CHROMOSOMAL LOCATION

Genetic locus: DNNT (human) mapping to 10q24.1.

PRODUCT

TdT (h2): 293T Lysate represents a lysate of human TdT transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

TdT (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive TdT antibodies. Recommended use: 10-20 μ l per lane.

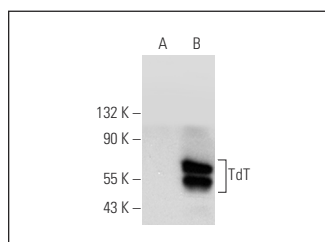
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TdT (C-11): sc-393710 is recommended as a positive control antibody for Western Blot analysis of enhanced human TdT expression in TdT transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



TdT (C-11): sc-393710. Western blot analysis of TdT expression in non-transfected: sc-117752 (A) and human TdT transfected: sc-170212 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.