SANTA CRUZ BIOTECHNOLOGY, INC.

TdT (C-11): sc-393710

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 γδ T cells and random dissemination of Vγ3Vδ1 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.

CHROMOSOMAL LOCATION

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

SOURCE

TdT (C-11) is a mouse monoclonal antibody raised against amino acids 450-509 mapping at the C-terminus of TdT of human origin.

PRODUCT

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

TdT (C-11) is available conjugated to agarose (sc-393710 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393710 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393710 PE), fluorescein (sc-393710 FITC), Alexa Fluor® 488 (sc-393710 AF488), Alexa Fluor® 546 (sc-393710 AF546), Alexa Fluor® 594 (sc-393710 AF594) or Alexa Fluor® 647 (sc-393710 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393710 AF680) or Alexa Fluor® 790 (sc-393710 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TdT (C-11) 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 µg per 100-500 µg 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.

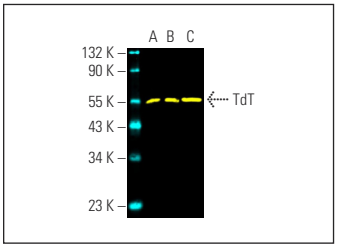
Molecular Weight of TdT: 58 kDa.

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

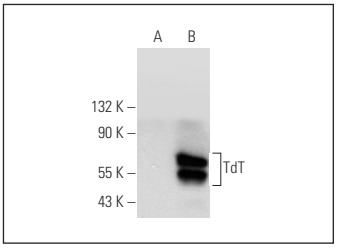
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (C-11) Alexa Fluor® 488: sc-393710 AF488. Direct fluorescent western blot analysis of TdT expression in Jurkat nuclear extract (**A**), MOLT-4 whole cell lysate (**B**) and mouse thymus tissue extract (**C**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 647: sc-516791.



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.

STORAGE

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

RESEARCH USE

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