

Recombinant Bovine DNTT Protein

Cat. No. DNTT-01B **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant bovine DNTT protein without tag was expressed in E. coli.

Species Bovine

Source E.coli

Description

Terminal Deoxynucleotidyl Transferase (TdT) catalyzes the template-independent addition of unlabelled or radio-, fluorescent-, biotin-, or digoxigenin-labelled deoxynucleotides, dideoxynucleotides, or ribonucleotides to the 3'-hydroxyl termini of single or double-stranded DNA. TdT requires an oligodeoxynucleotide primer with at least three phosphate groups and a free 3'-hydroxyl end, and a divalent cation for activity. TdT also catalyzes the depolymerization of DNA (pyrophosphorolysis) and pyrophosphate exchange. Historically, TdT is used to label DNA probes (either non-isotopic or radiolabeled), in apoptosis detection and quantification in the terminal deoxynucleotidyl transferase dUTP nick end labeling method (TUNEL) (also referred to as ISEL, in situ end labeling), in DNA sequencing, and to create 'sticky' ends by 3' tailing DNA prior to annealing and transformation. For 5' RACE, TdT is used to add homopolymer tails to the 3'-end of the first strand cDNA. Recently, TdT has been used to clone unknown sequences adjacent to known sequences in genomic DNA and for TdT-dependent PCR(TDPCR). TDPCR is used in RNA analysis, transcription analysis, DNA damage analysis, and DNA footprinting.

Molecular Mass 60 kDa

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Purity	Tested for contaminating exonucleases and endonucleases.
Unit Definition	One unit is the amount of enzyme required to polymerize 1 nmol of dATP residues into DNA in 60 minutes at 37 centigrade under standard assay conditions.
Applications	<ol style="list-style-type: none"> 1. 5' RACE. 2. Creating isotopic, fluorescent, biotinylated, or digoxigenin labeled probes. 3. Creating fluorescent 3' labeled sequencing primers. 4. Elimination of background bands in manual DNA sequencing. 5. TDPCR. 6. Detection of apoptotic DNA damage (TUNEL assay).
Notes	For Research Use Only. Not for use in diagnostic procedures.
Storage	Store at -20 centigrade.
Concentration	30 units/ μ
Storage Buffer	50mM potassium phosphate, pH 6.4, 100mM NaCl, 1mM DTT, 0.1% Tween [®] 20 and 50% glycerol.
Shipping	Shipped on dry ice.

GENE INFORMATION

Gene Name	DNTT
Official Symbol	DNTT DNA nucleotidylexotransferase [<i>Bos taurus</i> (cattle)]
Synonyms	DNTT; DNA nucleotidylexotransferase; DNA nucleotidylexotransferase; TDT; deoxynucleotidyltransferase, terminal; terminal addition enzyme; terminal

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deoxynucleotidyltransferase; terminal transferase; EC 2.7.7.31

Gene ID 281120

mRNA Refseq NM_177495

Protein Refseq NP_803461

MIM P06526

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