Thermo Scientific Terminal Transferase

F-203L Store at -20°C

Package information

- 2 500 units
- 15 000 U/ml
- Stable for one year from the assay date

Description: Terminal transferase (TdT) is a template independent polymerase that catalyzes the addition of deoxynucleotides to the 3´ hydroxyl terminus of DNA molecules. Protruding, recessed or blunt ended double or single stranded DNA molecules serve as a substrate for TdT.

Source: An *E. coli* strain that carries the cloned terminal transferase gene from calf thymus.

Storage buffer:
60 mM KPO_4
150 mM KCl
1 mM β-mercaptoethanol
1 % Triton X-100
50 % glycerol
pH 7.2 (25°C)

1x Reaction buffer:
50 mM Potassium acetate
20 mM Tris-acetate pH 7.9 (25°C)

Enzyme is supplied with optimized 10x TdT buffer (F-203B, **does not contain $CoCl_2$**) and 25 mM $CoCl_2$ separately. To obtain 1 ml 1x assay buffer supplement with 1.5 mM $CoCl_2$, mix 100 µl 10x buffer and 60 µl 25 mM $CoCl_2$ with 840 µl H_2O.

Unit definition: One unit is defined as the amount of enzyme catalyzing the incorporation of 1 nmol dATP into acid-precipitable material in one hour at 37°C in activity assay conditions in 1 ml volume, using $d(A)_{18}$ as primer.

Activity assay conditions: 200 mM sodium cacodylate, 25 mM Tris-HCl pH 7.2, 8 mM $MgCl_2$, 0.33 mM $ZnSO_4$, 0.2 mM dATP; 42 pmol oligo $d(A)_{18}$ and 1 µCi ^3H dATP (1-0.4 µM) in a 50 µl total reaction volume.

Exonuclease activity: Incubation of 50 U for 4 hours at 37°C in 50 µl assay buffer with 1 µg sonicated ^3H DNA ($2x10^5$ cpm/µg) released <0.5 % of radioactivity.

Endonuclease contamination: Incubation of 50 U with 1 µg ϕX174 RFI DNA (4 hours, 37°C, 50 µl) gave <10 % conversion to RFII.

Warranty

Product use limitation:
This product has been developed and is sold exclusively for research purposes and in vitro use only. This product has not been tested for use in diagnostics or drug development, nor are they suitable for administration to humans or animals.

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