TECHNICAL DATA SHEET

Terminal deoxynucleotidyl transferase

TdT Synthesis Panel

Product Code: TdTPanel - 6 x 250µL

PRODUCT DESCRIPTION

Terminal deoxynucleotidyl transferase (TdT) is a recombinant, template-independent polymerase that catalyzes the addition of deoxynucleotides to the 3' hydroxyl terminus of DNA molecules. Thanks to its ability to polymerize nucleotides in an untemplated fashion, TdT has become a promising solution for DNA synthesis using an enzymatic approach.

Manufactured to yield a purified and specific enzyme free from bacterial DNA contamination, our TdTs are suitable for enzymatic DNA & RNA synthesis workflows.

TdT Synthesis Panel features six proprietary Terminal deoxynucleotidyl transferases (TdTs) engineered to have unique characteristics for evaluation and exploration in DNA and RNA synthesis workflows:

- High coupling efficiency for natural DNA nucleotides
- High coupling efficiency for 3'-reversibly-blocked DNA nucleotides
- High coupling efficiency for natural RNA nucleotides
- Thermostability
- Broad pH resistance (pH 5-9)

PRODUCT APPLICATIONS

- Enzymatic DNA and RNA Synthesis

SHIPPING AND STORAGE

TdT Synthesis Panel has been designed by Kura Biotech to be transported stable within a temperature range of 4°C to 8°C for up to 24 hours without losing performance. For transport exceeding 24 hours, shipment should be at -20°C. Upon receipt, the product should be immediately stored at -20°C. To preserve enzyme activity for extended periods, storage at -80°C is recommended.

To ensure optimal kit performance, please follow the following guideline:

- Store the components according to the specifications on each vial's label or follow the instructions in this manual. Avoid repeated freeze-thaw cycles.
- If any kit components were damaged during transportation, contact Kura Biotech. Do not use damaged or expired components as it may compromise performance.

Components	Volume	Concentration	Storage T°
TdT A	250 µL	10 µM	-20°C
TdT B	250 µL	10 µM	
TdT C	250 µL	10 µM	
TdT D	250 µL	10 µM	
TdT E	250 µL	10 µM	
TdT F	250 µL	10 µM	
Reaction Buffer	2 x 1.5 mL	10X	
CoCl2	1ml	0.1M	

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TdT Synthesis Panel Enzymes	Features				
	Coupling efficiency			Thermostability	pH resistance range
	Natural DNA nucleotides (dNTPs)	Modified DNA nucleotides (3'O-NH2 reversibly blocked dNTPs)	Natural RNA nucleotides (rNTPs)	Tm	
TdT A	✦✦✦✦	✦✦✦✦	✦✦✦	54°C	pH 5-9
TdT B*	✦✦	✦✦	✦✦	46°C	
TdT C	✦✦✦	✦✦✦	✦✦✦✦✦	51°C	
TdT D	✦✦	✦✦✦	✦✦✦	52°C	
TdT E	✦✦	✦	✦✦	38°C	
TdT F	✦	✦✦✦✦✦	✦✦✦✦	48°C	

Protocol

Components	25 µL reaction	Final Concentration
dH2O	13.4 µL	-
Buffer 10x	2.5 µL	1x
CoCl2	0.5 µL	2 mM
Oligo = FAM-easy	0.5 µL	2 µM
Nucleotide	2.5 µL	20 µM
Pyrophosphatase	0.625 µL	0.01 U
TdT	5 µL	2 µM

Notes

Incubate at 37°C for 5-30 minutes. Quench by heating at 95°C for 5 minutes.

PRECAUTIONS AND DISCLAIMER

This document is for R&D use only, not for use in diagnostic procedures. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

CONTACT AND SUPPORT

To ask questions, solve problems, suggest protocol or product enhancements or report new applications, please contact us at www.blikka.com or email us at help@blikka.com.

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