Differentiating Research

Product Details

Taq DNA Polymerase, 5U/µL
(Without Mg+2)

Product Overview

Taq DNA polymerase is a highly thermostable DNA polymerase which is ubiquitously used for PCR reactions. The optimal optimization activity for Taq Polymerase is around 72-80℃. The enzyme catalyzes 5'→3' DNA synthesis but does not possess 3'→5' exonuclease activity for proof reading.

Catalog Details

R1104	500 U
R1105	1000 U
R1106	2000 U

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Storage

- 20 ℃

PCR Protocol

The samples must be prepared in sterile DNase Free micro-centrifuge tubes, with the following composition placed on ice

Components	50µL reaction	Final Concentration
Template DNA	1 µL	Upto 250ng
Forward Primer (10µM)	1 µL	0.1 - 1µM
Reverse Primer (10µM)	1 µL	0.1 - 1µM
dNTPs MIX (2.5mM Each)	4 µL	Upto 200 µM
10X Taq Reaction Buffer (without Mg+2)	5 µL	1X
20mM Mg+2 Buffer	Variable	
DX/DT Taq DNA Polymerase	0.5 µL	0.5 - 1.25 U
Nuclease Free Water	Upto 50 µL	

NOTES:

- To collect all liquid at the bottom of the vial, reaction mix can be kept for a quick spin (10 seconds).
- While doing PCR without heat lid, it is recommended to overlay the sample with 1-2 drops of mineral oil.

The standard steps for thermal cycler are tabulated below with optimum temperature, time, and number of cycles. Generally, 25 – 35 cycles yield sufficient product.

Step	Temperature	Time	Cycle
Initial denaturation	95 ± 1 ℃	2 - 5 minutes	1
Denaturation	95 ± 1 ℃	0.5 - 1 minutes	25 - 35
Annealing *	45 - 65 ℃	0.5 - 1 minutes	
Extension	68 - 72 ℃	1 minute/kb	
Final Extension	68 - 72 ℃	5 - 15 minutes	1
Hold, if required.	2- 8 ℃	variable	1

*Annealing temperature is based on the Tm (Melting point) of the primer pair used. Melting point increases with increase in GC content.

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Quality Control Assays

1. **Purity:** SDS Page analysis with Coomassie Blue Staining resulted in ≥ 95% purity.
2. **Nuclease tests:** No contamination of endo or exonucleases were detected.

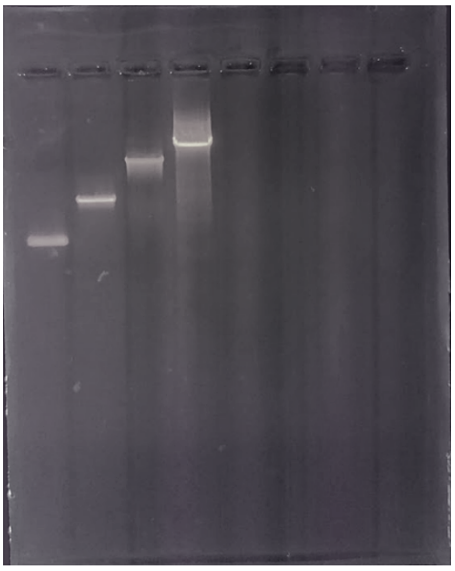
Performance Testing

Target sizes tested : λ DNA - 300bp, 1kb, 3kb, 5kb all at 1ng concentration

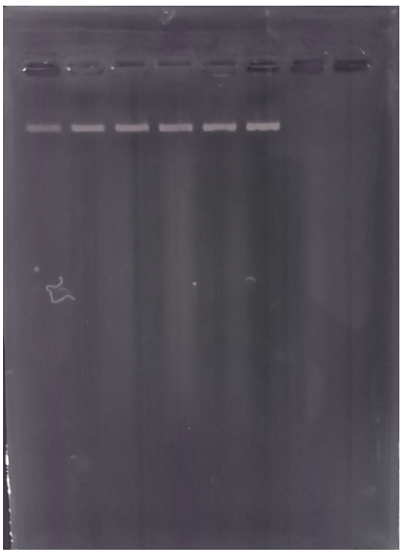
Target concentration tested : λ DNA - (300bp) - 10pg, 100pg, 500pg, 1ng, 50ng, 100ng

Extension time: 1 min/Kb

Annealing temperature of all the primers: 58℃



Lane 1: 300 bp
Lane 2: 1 Kbp
Lane 3: 3 Kbp
Lane 4: 5 Kbp
Lane 5: Blank
Lane 6: Blank
Lane 7: Blank
Lane 8: Blank



Lane 1: 10 pg
Lane 2: 100 pg
Lane 3: 500 pg
Lane 4: 1 ng
Lane 5: 50 ng
Lane 6: 100 ng
Lane 7: Blank
Lane 8: Blank

Any Technical Help ?

Please write to us at tech@dxbidt.com . Response can be expected within 24Hrs. Our technical team shall be happy to assist you all the time.

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Email : info@dxbidt.com | Ph: +91-7349708807

Website: https://dxbidt.com

Address: #87, Dasanapura, Lakshmipura Post, Bangalore - 560073