Taq DNA Polymerase

TP1000

SMOBiO®
Small Bio, Smart Tool

Product information ExcelTaq™ series

***Taq* DNA Polymerase**

TP1000 500 units

Taq DNA Polymerase (5 U/µl)	100 µl
10X *Taq* Buffer	1 ml × 2

Storage

-20°C for 24 months

Description

ExcelTaq™ *Taq* DNA Polymerase is a recombinant thermo-stable *Taq* DNA polymerase expressed and purified from an *E. coli* strain carrying the cloned gene. With a high DNA synthesis rate and high thermo-stability, ExcelTaq™ *Taq* DNA Polymerase is suitable for common and specialized PCR applications.

Features

- 5'→3' DNA polymerase activity
- 5'→3' exonuclease activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- Thermo-stable – half-life lasts for more than 40 min at 95°C

Applications

- Routine PCR
- Amplification of DNA fragments up to 8 kb
- Generation of PCR products for TA cloning
- DNA labeling

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Storage Buffer

20 mM Tris-HCl (pH 8.0), 100 mM KCl, 0.1 mM EDTA, 1 mM DTT, stabilizer, 50% (v/v) glycerol

10X Taq Buffer

200 mM Tris-HCl (pH 8.8 at 25°C), 100 mM KCl, 100 mM $(NH_4)_2SO_4$, 20 mM $MgSO_4$, 1% Triton X-100

Unit Definition

One unit is defined as the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble material in 30 minutes at 74°C.

Recommended PCR Condition

Template	1 – 150 ng
Forward primer	0.1 – 0.5 µM
Reverse primer	0.1 – 0.5 µM
10X *Taq* buffer	5 µl
dNTPs	0.2 mM (each)
Taq DNA polymerase	0.25 µl (1.25 U)
ddH_2O	to 50 µl
Total volume	50 µl

Recommended PCR Program

94°C	2 min	
94°C	30 sec	25 ~ 40 cycles
50~68°C*	30 sec	25 ~ 40 cycles
72°C	30 sec/kb	25 ~ 40 cycles
72°C	1 min	

*Optimal PCR condition varies according to primers' thermodynamic properties.

Quality Control

Functional Testing

ExcelTaq™ *Taq* DNA Polymerase is tested for performance in the polymerase chain reaction (PCR) using 1 unit enzyme to amplify a 665 bp target from 10 pg of tested plasmid DNA. The resulting PCR product is visualized as a single band on an ethidium bromide-stained agarose gel.

Nuclease Assay

No contaminating endonuclease or exonuclease activity was detected using pUC19 incubated with ExcelTaq™ *Taq* DNA Polymerase for 4 hours at 37°C.

Residual Nucleotides Assay

No contaminating residual nucleotides were detected from purified ExcelTaq™ *Taq* DNA Polymerase by PCR assay.

Other Information

Caution: Not intended for human or animal diagnostic or therapeutic uses.

Related Products

CK1000	Champion E. coli Transformation Kit
DM1100	ExcelBand 50 bp DNA Ladder, 500 µl
DM2100	ExcelBand 100 bp DNA Ladder, 500 µl
DM2300	ExcelBand 100 bp+3K DNA Ladder, 500 µl
DM3100	ExcelBand 1 KB (0.25-10 kb) DNA Ladder, 500 µl
NS1000	FluoroVue Nucleic Acid Gel Stain (10,000X), 500 µl
RP1000	ExcelRT Reverse Transcriptase, 20,000 U
TF1000	SMO-HiFi DNA Polymerase, 100 U
TF3000	G-HiFi DNA Polymerase, 100 U
TP1100	ExcelTaq 5× PCR Master Mix, 200 RXN
TP1200	ExcelTaq 5× PCR Master Dye Mix, 200 RXN
TP1260	ExcelTaq 5× Fluorescent PCR Master Mix, 200 RXN
TP2100	ExcelTaq Blood Direct PCR Master Mix Kit, 200 RXN
TP5000	ExcelTaq Hot Start II DNA Polymerase, 500 U
TQ1110	ExcelTaq 2× Q-PCR Master Mix (SYBR, ROX), 200 RXN
VE0100	B-BOX Blue Light LED epi-illuminator, AC 100-240V, 50/60Hz

B-BOX™ Blue Light LED epi-illuminator

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