



SMOBIO

Small Bio, Smart Tool

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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
- DNA sequencing

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 $(\text{NH}_4)_2\text{SO}_4$, 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 μ M |
| Reverse primer | 0.1 – 0.5 μ M |
| 10X <i>Taq</i> buffer | 5 μ l |
| dNTPs | 0.2 mM (each) |
| <i>Taq</i> DNA polymerase | 0.25 μ l (1.25 U) |
| ddH ₂ O | to 50 μ l |
| <hr/> | |
| Total volume | 50 μ l |

Recommended PCR Program

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

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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 μ l |
| DM2100 | ExcelBand 100 bp DNA Ladder, 500 μ l |
| DM2300 | ExcelBand 100 bp+3K DNA Ladder, 500 μ l |
| DM3100 | ExcelBand 1 KB (0.25-10 kb) DNA Ladder, 500 μ l |
| NS1000 | FluoroVue Nucleic Acid Gel Stain (10,000X), 500 μ l |
| RP1000 | ExcelRT Reverse Transcriptase, 20,000 U |
| TF1000 | SMO-HiFi DNA Polymerase, 100 U |
| TF2000 | Q-HiFi DNA Polymerase, 100 U |
| TF3000 | G-HiFi DNA Polymerase, 100 U |
| TP1100 | ExcelTaq 5 \times PCR Master Mix, 200 RXN |
| TP1200 | ExcelTaq 5 \times PCR Master Dye Mix, 200 RXN |
| TP1260 | ExcelTaq 5 \times 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 \times 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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