



**SMOBIO**

Small Bio, Smart Tool

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## Product Information

### ExcelTaq Klen-Taq DNA Polymerase

**TK1000**    **200 reactions**

Klen-Taq DNA Polymerase    100  $\mu$ l

10X Reaction Buffer    1.2 ml

## Storage

-20°C     $\geq$  24 months

## Description

ExcelTaq Klen-Taq DNA Polymerase is a specially blended enzyme mix containing KlenTaq-1 DNA polymerase (a 5'-exo-minus, N-terminal deletion of *Taq* DNA polymerase) and a small amount of a proofreading DNA polymerase. This unique blending helps to improve the fidelity, yield and processivity of the resultant PCR process. The Klen-Taq is also highly robust, showing high tolerance of varying concentration of  $Mg^{2+}$ ; it is highly thermostable and has four times the fidelity compared to *Taq* DNA polymerase. The ExcelTaq Klen-Taq Polymerase is ideal for DNA amplifications 0.5-5 kb in length on genomic DNA, and up to 10 kb on less complex templates.

## Features

- 5'→3' DNA polymerase activity
- Thermo-stable up to 98°C during PCR denaturing step
- 4 × fidelity as compared to *Taq* DNA polymerase
- Robust PCR performance, resistance to variance in PCR condition

## **Storage Buffer**

40 mM Tris-HCl (pH 7.5), 50 mM KCl, 25mM  $(\text{NH}_4)_2\text{SO}_4$ , 0.1 mM EDTA, 5.0 mM 2-mercaptoethanol, stabilizer, 50% (v/v) glycerol

## **10X Reaction Buffer**

400 mM Tricine-KOH (pH 9.2 at 25°C), 150 mM KOAc, 35 mM  $\text{Mg}(\text{OAc})_2$ , 750  $\mu\text{g}/\text{ml}$  BSA

## Recommended PCR Condition

Template	1 – 150 ng
Forward primer	0.1 – 0.5 $\mu$ M
Reverse primer	0.1 – 0.5 $\mu$ M
10 $\times$ Reaction Buffer	5 $\mu$ l
dNTPs	0.2 mM (each)
Klen-Taq enzyme	0.5 $\mu$ l
H <sub>2</sub> O	to 50 $\mu$ l
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Total volume	50 $\mu$ l

## Recommended PCR Program

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

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

## **Quality Control**

### **Functional Testing**

ExcelTaq Klen-Taq DNA Polymerase is tested for performance in the polymerase chain reaction (PCR) using 0.5 µl of enzyme to amplify a 665 bp target from 1 ng 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 Klen-Taq DNA Polymerase for 4 hours at 37°C.

### **Residual Nucleotides Assay**

No contaminating residual nucleotides were detected from purified ExcelTaq Klen-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

- DM1100 ExcelBand 50 bp DNA Ladder, 500  $\mu$ l
- DM2100 ExcelBand 100 bp DNA Ladder, 500  $\mu$ l
- DM2300 ExcelBand 100 bp+3K DNA Ladder, 500  $\mu$ l
- DM3100 ExcelBand 1 KB (0.25-10 kb) DNA Ladder, 500  $\mu$ l
- DM3200 ExcelBand 1 KB Plus (0.1-10 kb) DNA Ladder, 500  $\mu$ l
- DM4100 ExcelBand XL 25 kb DNA Ladder, Broad Range (up to 25 kb), 500  $\mu$ l
- DL5000 FluoroDye DNA Fluorescent Loading Dye (Green, 6 $\times$ ), 1 ml
- DS1000 FluoroStain DNA Fluorescent Staining Dye (Green, 10,000 $\times$ ), 500  $\mu$ l
- TP1000 ExcelTaq DNA Polymerase, 5 U/  $\mu$ l, 500 U  $\times$  1
- 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
- TP2000 ExcelTaq Blood Direct DNA Polymerase, 5 U/  $\mu$ l, 500 U  $\times$  1
- TP2100 ExcelTaq Blood Direct PCR Master Mix Kit, 200 RXN
- VE0100 B-BOX<sup>TM</sup> Blue Light LED epi-illuminator, AC 100-240V, 50/60Hz



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2013 ver. 1.2.0