



**SMOBIO**

Small Bio, Smart Tool

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## Product Information

ExcelTaq™ series

### Blood Direct DNA Polymerase

#### TP2000 500 units

Blood Direct DNA Polymerase (5 U/μl)	100 μl
5X Blood Direct Buffer	1 ml × 4
Positive Control Primers (10 μM, each)	50 μl

## Storage

4°C for 6 months

-20°C for 24 months

## **Description**

The ExcelTaq™ Blood Direct DNA Polymerase is designed for amplifying targeted DNA directly from whole blood, eliminating the need for a lengthy DNA isolation process. The ExcelTaq™ Blood Direct DNA Polymerase is highly tolerant in the presence of PCR interfering/ inhibiting substances in blood, such as IgG, hemoglobin, and lactoferrin. The ExcelTaq™ Blood Direct DNA Polymerase is compatible with most anticoagulants, such as citrate, EDTA, and heparin (Fig. 1). The ExcelTaq™ Blood Direct DNA Polymerase includes a pair of Positive Control Primers (CCR5) that are compatible with primate blood samples.

## Features

- 5'→3' DNA polymerase activity
- No detectable 3'→5' exonuclease (proofreading) activity
- Generates PCR products with 3'-dA overhangs
- Compatible with most anticoagulants

## Applications

- Direct amplification of DNA from blood samples
- High throughput screening without DNA purification
- Suitable for multiplex PCR

## Storage buffer

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

## CCR5 control primer sequence

CCR5-F: 5'-CTCCCAGGAATCATCTTTACC-3'

CCR5-R: 5'-TCATTTGACACCGAAGCAG-3'

## Recommended PCR Condition

Blood	3 $\mu$ l
Forward primer	0.1 – 0.5 $\mu$ M
Reverse primer	0.1 – 0.5 $\mu$ M
5X Blood Direct Buffer	10 $\mu$ l
dNTPs	0.2 mM (each)
Blood Direct DNA Polymerase	0.25 $\mu$ l (1.25 U)
Add ddH <sub>2</sub> O to	to 50 $\mu$ l
<hr/>	
Total volume	50 $\mu$ l

*Note: Mix well before PCR Reaction*

## Recommended PCR Program

94°C	3 min	} 30 ~ 40 cycles
94°C	30 sec	
50~68°C*	30 sec	
72°C	1 min/kb	
72°C	3 min	

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

## Post amplification analysis

Centrifuge PCR reaction mixture at  $1000 \times g$  for 1 ~ 3 minutes. **Load only the clear supernatant of the PCR products for gel electrophoresis analysis.**

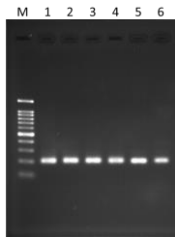


Fig. 1. The ExcelTaq™ Blood Direct DNA Polymerase amplified 200 bp from differently treated blood samples using CCR5 specific primers. M: DM2100 marker, lane 1: fresh blood, lane 2: blood + citrate, lane 3: blood +EDTA, lane 4: blood + EDTA/Fluoride, lane 5: blood + Heparin, lane 6: 1 mm<sup>2</sup> of dry blood on filter paper.

## **Quality Control**

### **Functional Testing**

ExcelTaq™ Blood Direct DNA Polymerase is tested for performance in the polymerase chain reaction (PCR) using a 200 bp target from the CCR5 genomic 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 DNA Polymerase source for 4 hours at 37°C.

### **Residual Nucleotides Assay**

No contaminating residual nucleotides were detected from a purified DNA polymerase source by a 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 $\mu$ l
DM2300	ExcelBand 100 bp+3K DNA Ladder, 500 $\mu$ l
DM3100	ExcelBand 1 KB (0.25-10 kb) DNA Ladder, 500 $\mu$ l
DM4100	ExcelBand XL 25 kb DNA Ladder, Broad Range (up to 25 kb), 500 $\mu$ l
NS1000	FluoroVue Nucleic Acid Gel Stain (10,000X), 500 $\mu$ l
TF1000	SMO-HiFi DNA Polymerase, 100 U
TP1000	ExcelTaq Taq DNA Polymerase, 500 U
TP1200	ExcelTaq 5 $\times$ PCR Master Dye Mix, 200 RXN
TP1260	ExcelTaq 5 $\times$ Fluorescent PCR Master Mix, 200 RXN
TP2100	ExcelTaq 5 $\times$ Blood Direct PCR Master Mix Kit, 200 RXN
TP2160	ExcelTaq 5 $\times$ Blood Direct Fluoro PCR Kit, 200 RXN
TP5000	ExcelTaq Hot Start II DNA Polymerase, 500 U
RP1000	ExcelRT Reverse Transcriptase, 20,000 U
RP1100	ExcelRT One-step RT-PCR Kit, 50 RXN
VE0100	B-BOX Blue Light LED epi-illuminator, AC 100-240V, 50/60Hz