



**SMOBIO**

Small Bio, Smart Tool

[www.smobio.com](http://www.smobio.com)

## Product information

ExcelTaq™ series

### 5X Blood Direct Fluoro PCR Kit

#### TP2160 200 RXN

5X Blood Direct Fluoro PCR Mix	1 ml × 2
Positive Control Primers (10 μM, each)	25 μl

## Storage

### Protected from light

4°C for 6 months

-20°C for 24 months

**Caution: Avoid Multiple Freeze/Thaw Cycles**

## **Description**

The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit is designed for amplifying target DNA directly from whole blood, eliminating the need for a lengthy DNA isolation process.

The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit contains 5X concentrated mixture of all the essential components of a PCR reaction. This master mix also contains a PCR-friendly loading and tracking dye (Orange G), as well as a safer fluorescent DNA staining dye. The resultant PCR reaction mixture can be loaded directly into gels for electrophoresis. The included fluorescent DNA staining dye allows users to track electrophoresis process in real time and helps to eliminate the need for staining process.

The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit is capable of tolerating the presence of PCR interfering/inhibiting substances in blood (Fig 1). Therefore, the ExcelTaq™ 5X Blood Direct Fluoro PCR Kit is ideal with high throughput screening of blood samples for high reproducibility.

The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit includes a pairs 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
- High throughput PCR
- High yield PCR
- High reproducibility, with reduced pipetting errors
- Compatible with most anticoagulants
- DNA bands can be visualized directly under UV or 470 nm blue light illuminations.

## Applications

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

## 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 Fluoro PCR Mix	10 $\mu$ l
ddH <sub>2</sub> O	to 50 $\mu$ l
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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	
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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.**

Fluorescent DNA ladders (e.g. SMOBIO's DM2160) are recommended for monitoring band migration under illumination directly.

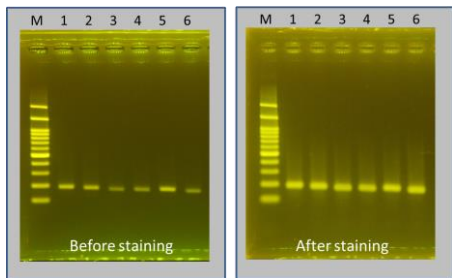


Fig 1. The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit amplified 200 bp from differently treated blood samples using CCR5 specific primers. M: DM2160 marker, lane 1: fresh blood, lane 2: blood + citrate, lane 3: blood + EDTA, lane 4: blood + EDTA/Fluoride, lane 5: blood + Heparin, lane 6: 1 mm<sup>2</sup> of dry blood on filter paper. The gel was further stained with 1:10000X diluted DS1000 solution.

## **Quality Control**

### **Functional Testing**

ExcelTaq™ 5X Blood Direct Fluoro PCR Kit is tested for performance in the polymerase chain reaction with a CCR5 control primer to amplify 200 bp target from the CCR5 genomic DNA. The resulting PCR product is visualized as a single band on an agarose gel under 470 nm of blue light illumination.

### **Nuclease Assay**

No contaminating endonuclease or exonuclease activity was detected using pUC19 incubated with ExcelTaq™ 5X Blood Direct Fluoro PCR Kit (1:5 dilution) for 4 hours at 37°C.

### **Residual Nucleotides Assay**

No contaminating residual nucleotides were detected from ExcelTaq™ 5X Blood Direct Fluoro PCR Kit by a 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
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 DNA Polymerase, 500 U
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, 500 U
TP2100	ExcelTaq 5 $\times$ Blood Direct PCR Master Mix 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
CK1000	Champion E. coli Transformation Kit
VE0100	B-BOX Blue Light LED epi-illuminator, AC 100-240V, 50/60Hz