



**SMOBIO**

Small Bio, Smart Tool

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

## Product information

ExcelTaq™ series

### 5X Blood Direct Fluoro PCR Kit

#### TP2160 200 reactions

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

## Storage

### Protected from light

4°C	≥ 6 months
-20°C	≥ 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 a unique blend of 5X concentrated mixture of all essential components of a PCR reaction other than primers and templates. This master mix also contains a tracking dye (Orange G), as well as a safer fluorescent DNA staining dye. The ExcelTaq™ 5X Blood Direct Fluoro PCR Kit eliminates the need for the staining process. The resulting PCR reaction mixture is adequate for loading directly into a TAE or TBE buffered gel for electrophoresis.

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

The ExcelTaq™ 5X Blood Direct PCR Fluoro Kit 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
- 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 sample
- High throughput screening without DNA purification

## CCR5 Control Primers:

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
<hr/>	
Total volume	50 $\mu$ l

*Note: Mix well before PCR reaction*

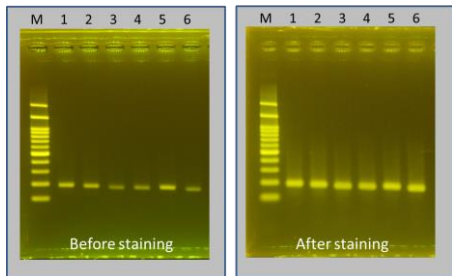
## Recommended PCR Program

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.** It is recommended to use fluorescent DNA ladders for monitoring band migration under illumination directly.



**Figure 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 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 a purified DNA polymerase source by a PCR assay.

## **Other Information**

SMOBIO Technology, Inc. claims all warranties with respect to this document, expressed or implied, including but not limited to those of merchantability or fitness for a particular purpose. In no event shall SMOBIO Technology, Inc. be liable, whether in contract, tort, warranty, or under any statute or any other basis for special, incidental, indirect, punitive, multiple or consequential damages in connection with or arising from this document, including but not limited to the use thereof.

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

## Related Products

DM1160	FluoroBand 50 bp Fluorescent DNA Ladder, 500 $\mu$ l
DM2160	FluoroBand 100 bp Fluorescent DNA Ladder, 500 $\mu$ l
DM2360	FluoroBand 100 bp+3K Fluorescent DNA Ladder, 500 $\mu$ l
DM3160	FluoroBand 1 KB (0.25-10 kb) Fluorescent DNA Ladder, 500 $\mu$ l
DM3260	FluoroBand 1 KB Plus (0.1-10 kb) Fluorescent DNA Ladder, 500 $\mu$ l
DM4160	FluoroBand XL 25 kb Fluorescent DNA Ladder, Broad Range (up to 25 kb), 500 $\mu$ l
DL5000	FluoroDye DNA Fluorescent Loading Dye (Green, 6 $\times$ ), 1 ml
NS1000	FluoroVue Nucleic Acid Gel Stain (10,000X), 500 $\mu$ l
TF1000	ExcelTaq SMO-HiFi DNA Polymerase, 1 U/ $\mu$ l, 100 U $\times$ 1
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
TQ1110	ExcelTaq 2 $\times$ Q-PCR Master Mix (SYBR, ROX), 200 RXN
RP1100	ExcelRT One-step RT-PCR Kit, 50 RXN