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## **Product Information**

**ExcelRT™ series**

### **One-Step RT-PCR Kit**

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#### **RP1100    50 RXN**

Taq /RT Enzyme Mix

50 µl

2X One-step buffer

750 µl x 2

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#### **Storage**

-20°C for 24 months

#### **Features**

- Generates dsDNA directly from RNA samples
- High sensitivity and yields
- High reproducibility, reduced pipetting errors
- High throughput
- Reduced RNase H ribonuclease activity

## Description

The ExcelRT™ One-Step RT-PCR Kit is designed for the reverse transcription and PCR amplification of a specific target RNA from either total RNA or mRNA. The ExcelRT™ One-Step RT-PCR Kit provides the user an alternative to the lengthy two step processes (first strand generation and amplification) by using a single mixture, single tube, one step reaction. The ExcelRT™ One-Step RT-PCR Kit contains a 2X reaction premix consisting of an optimized buffer, dNTPs,  $Mg^{2+}$  and enzyme stabilizer, and a blend of recombinant reverse transcriptase and *Taq* DNA polymerase. The ExcelRT™ One-Step RT-PCR Kit allows the user to complete the RT-PCR process using a thermocycler in a single reaction setting. The ExcelRT™ One-Step RT-PCR Kit is capable of detecting even trace amounts of target RNA and ideal for target RNA amplification and analysis

## **General Procedure:**

- 1) Prepare the reaction mix by combining the indicated volume of components of One-Step RT-PCR:

2)

2X One-Step Buffer	25 $\mu$ l
Upstream primer (10 $\mu$ M)*	1 $\mu$ l
Downstream primer (10 $\mu$ M)*	1 $\mu$ l
Taq /RT enzyme mix	1 $\mu$ l
RNA template**	X $\mu$ l (10 pg~1 $\mu$ g)
DEPC-Treated H <sub>2</sub> O	Up to 50 $\mu$ l
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Final volume	50 $\mu$ l

- 3) Place reaction tubes directly into thermocycler and initiate first strand synthesis – amplification reaction.

\* RP1100 is optimized for sequence specific primers.

\*\* Adding RNA template last is recommended.

#### 4) Thermal cycler program

Reaction Steps	Temperature and Time		
Preheat	until block temperature reaches 42~50℃		
<b><u>cDNA synthesis</u></b>			
Reverse transcription	42~55℃	30 min	
Denature	94℃	2 min	
<b><u>Amplification</u></b>			
Denature	94℃	20 sec	} 30~35 Cycles
Annealing <sup>#</sup>	50~68℃	30 sec	
Extension	72℃	30 sec/kb	
<b><u>Final extension</u></b>			
Extension	72℃	1 min	

<sup>#</sup>Optimal PCR condition varies according to primers' thermodynamic properties.

*Note: RP1100 is not designed for multiplexing DNA with internal control, due to the competition of highly abundant housekeeping gene mRNA.*

## **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
RI1000	RNAok RNase Inhibitor, 2000 U
RP1000	ExcelRT Reverse Transcriptase, 20,000 U
RP1300	ExcelRT Reverse Transcription Kit, 100 RXN
RP1400	ExcelRT Reverse Transcription Kit II, 100 RXN
DM1100	ExcelBand 50 bp DNA Ladder, 500 µl
DM2300	ExcelBand 100 bp+3K DNA Ladder, 500 µl
DM3100	ExcelBand 1 KB (0.25-10 kb) DNA Ladder, 500 µl
DM4100	ExcelBand XL 25 kb DNA Ladder, Broad Range (up to 25 kb), 500 µl
DL5000	FluoroDye DNA Fluorescent Loading Dye (Green, 6×), 1 ml
NS1000	FluoroVue Nucleic Acid Gel Stain (10,000X), 500 µl
TQ1100	ExcelTaq 2X Q-PCR Master Mix (SYBR, no ROX), 200 RXN
TQ1110	ExcelTaq 2X Q-PCR Master Mix (SYBR, ROX), 200 RXN
TQ2110	ExcelTaq 2X Q-PCR Master Mix (TaqMan, ROX), 200 RXN

## Related Products, continued

TF1000	SMO-HiFi DNA Polymerase, 100 U
TF2000	Q-HiFi DNA Polymerase, 100 U
TF3000	G-HiFi DNA Polymerase, 100 U
TP1000	ExcelTaq Taq DNA Polymerase, 500 U
TP1200	ExcelTaq 5× PCR Master Dye Mix, 200 RXN
TP5000	ExcelTaq Hot Start II DNA Polymerase, 500 U
TP2100	ExcelTaq Blood Direct PCR Master Mix Kit, 200 RXN
VE0100	B-BOX Blue Light LED epi-illuminator, AC 100-240V, 50/60Hz



**B-BOX™ Blue Light LED epi-illuminator**



The latest version of the manual can be downloaded from [www.smobio.com/shop](http://www.smobio.com/shop).

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2023 ver. 2.3.0

P06-F11-A1