

# Phusion<sup>®</sup>

## RT-PCR Kit

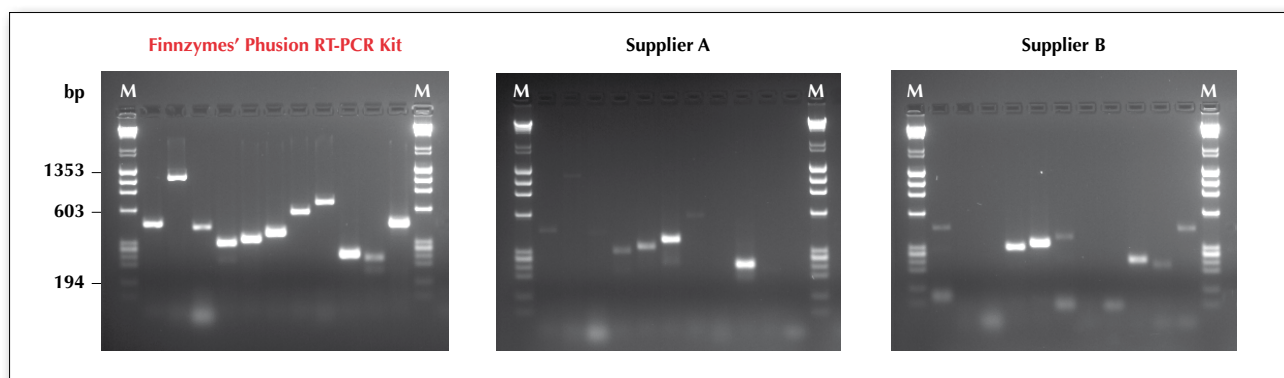
Now sold as  
Thermo Scientific

### Introduction

Finnzymes' Phusion<sup>®</sup> RT-PCR Kit is a complete two-step kit designed for high-fidelity RT-PCR. The kit contains the full set of reagents required for performing cDNA synthesis and PCR in two steps. In the first step, a variety of RNA templates and all priming options may be used for efficient synthesis of cDNA with M-MuLV Reverse Transcriptase. In the second step, Phusion<sup>®</sup> Hot Start II High-Fidelity DNA Polymerase is used for cDNA amplification. This polymerase is extremely accurate and robust, and the hot start modification guarantees additional specificity in PCR. The superior features of Phusion Hot Start II DNA Polymerase enable accurate cDNA amplification with high yields and short cycling times. Phusion RT-PCR Kit is an ideal choice when producing cDNA for cloning and gene expression studies.

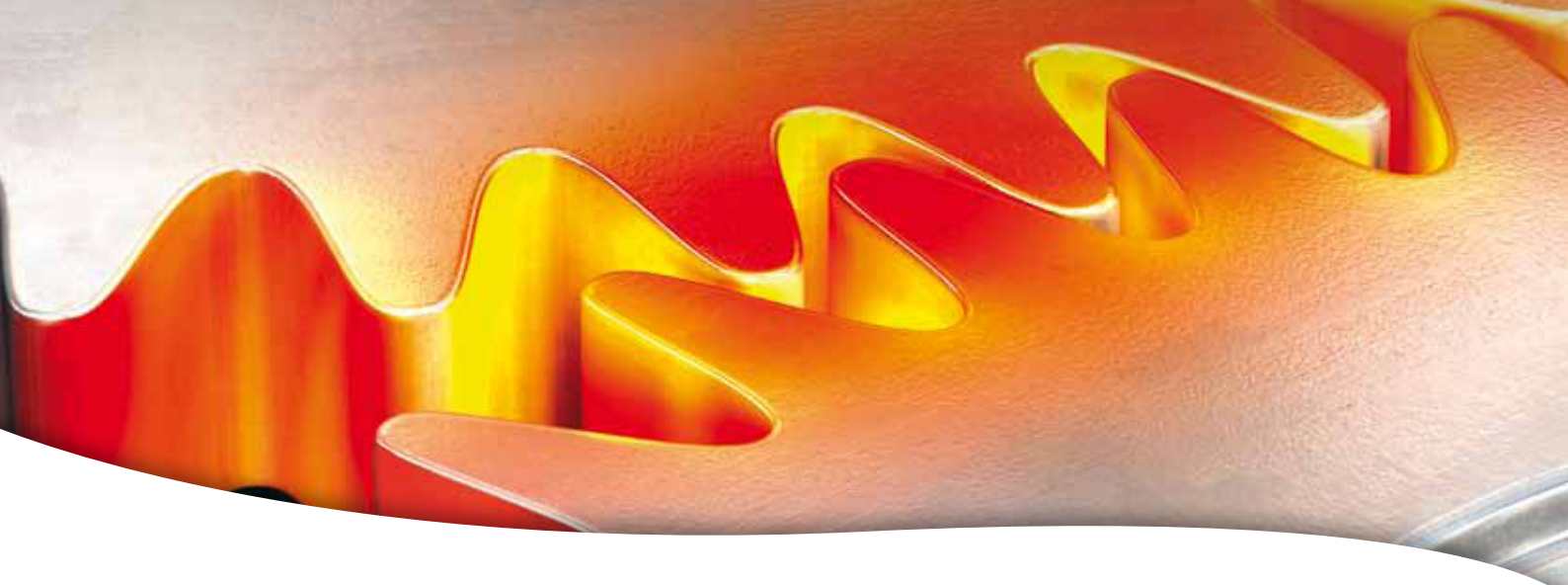
### Advantages

- **Robust**  
broad range of RT-PCR products with high yields
- **Accurate**  
cDNA amplification with 52x *Taq* fidelity
- **Fast**  
short and simple cDNA synthesis and PCR protocols
- **Easy to use**  
complete 2-step kit for RT-PCR

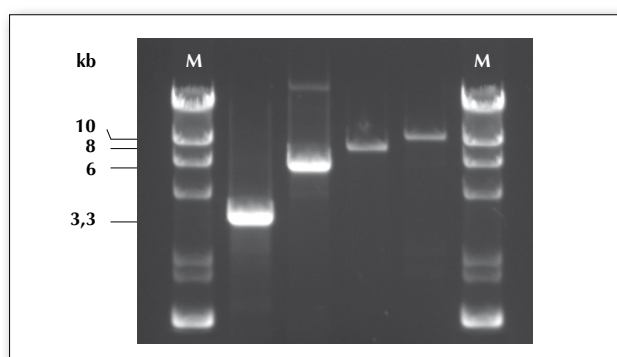


**Robustness of different RT-PCR systems.** A typical RT-PCR experiment for amplifying short cDNA fragments (192-1113 bp). Finnzymes' RT-PCR system was compared to the RT-PCR systems from two major suppliers. Total RNA from human skeletal muscle was transcribed with random priming according to each supplier's recommendations. Amplification of cDNA was performed with a high-fidelity DNA polymerase recommended by the suppliers. Due

to the various sizes of amplicons, a PCR protocol with the lowest annealing temperature and the longest extension time defined by amplicons was used. Robust Phusion RT-PCR Kit produced all 11 amplicons with highest yields. With competitors' RT-PCR systems, less amplicons with varying yields were transcribed and amplified. M is a molecular size marker.



## Amplification of long fragments



**Phusion RT-PCR Kit is able to amplify long RT-PCR fragments.** 3.3 kb, 6 kb, 8 kb and 10 kb fragments of dystrophin gene were reverse transcribed and amplified with Phusion RT-PCR Kit. Oligo (dT) was used for priming. Starting template was human skeletal muscle total RNA (50 ng). M is a molecular size marker.

## Improve PCR performance with Finnzymes' instruments and vessels



Unique Piko<sup>®</sup> Thermal Cyclers and ultra thin wall UTW<sup>®</sup> tubes and plates provide additional speed and reliability for PCR.

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

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## Kit components

Kit components	F-546S	F-546L
RT enzyme mix (M-MuLV RNase H <sup>+</sup> RT + RNase inhibitor)	1 x 40 µl	1 x 200 µl
10x RT Buffer (includes 50 mM MgCl <sub>2</sub> )	1 x 1.5 ml	1 x 1.5 ml
Oligo(dT) <sub>15</sub> primer	1 x 20 µl	1 x 100 µl
Random primers (hexamers)	1 x 20 µl	1 x 100 µl
10 mM dNTP Mix	1 x 40 µl	2 x 100 µl
Phusion <sup>®</sup> Hot Start II DNA Polymerase	1 x 10 µl	1 x 50 µl
5x Phusion <sup>®</sup> HF Buffer	1 x 1.5 ml	1 x 1.5 ml
Control RNA with carrier	1 x 20 µl	1 x 20 µl
Control Primer Mix	1 x 20 µl	1 x 20 µl

## Ordering information

Phusion <sup>®</sup> RT-PCR Kit	
F-546S	20 reactions (cDNA synthesis in 20 µl, PCR in 50 µl)
F-546L	100 reactions (cDNA synthesis in 20 µl, PCR in 50 µl)

Related products	
F-540S/L	Phusion <sup>®</sup> Hot Start High-Fidelity DNA Polymerase
F-580S/L	RobusT <sup>™</sup> I RT-PCR Kit, (one-step kit)
F-590S/L	RobusT <sup>™</sup> II RT-PCR Kit, (one-step kit)*
F-470S/L	DyNAmo <sup>™</sup> cDNA Synthesis Kit, (for qPCR)

\* Not available in US