

# Explore maximum reverse transcription performance

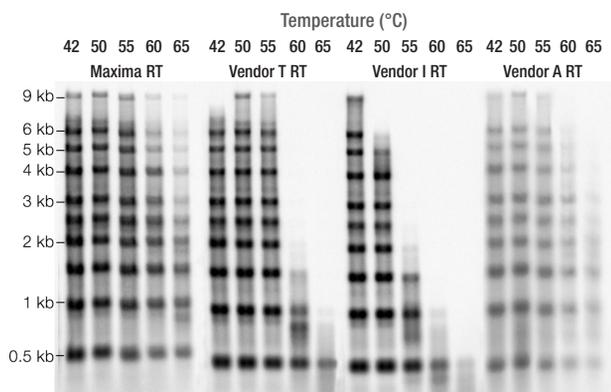
## Maxima Reverse Transcriptases

Thermo Scientific™ Maxima™ and Maxima™ H Minus Reverse Transcriptases were developed through molecular evolution, which has enabled the introduction and selection of multiple favorable mutations in traditional M-MuLV reverse transcriptase to help maximize performance in cDNA synthesis.

- Superior yields of full-length cDNA
- High reaction temperatures for improved transcription
- High transcription efficiency on long RNA templates
- Formats available with integrated gDNA removal step for simplified workflows\*

### Full-length cDNA over a wide temperature range

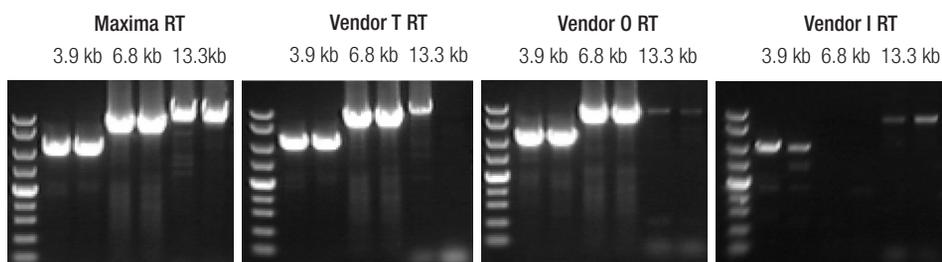
Maxima enzymes outperform other enzymes over a wide temperature range. Their tolerance of high reaction temperatures allows efficient transcription of RNA regions with extensive secondary structure and helps improve primer specificity, resulting in high yields of full-length DNA (Figure 1).



**Figure 1. High yields of cDNA over a broad temperature range.** cDNA synthesis incorporating a radioactive label, using 1 µg of Millennium™ RNA markers (poly(A)-tailed) with oligo(dT)<sub>18</sub> primer, was performed with Maxima H Minus Reverse Transcriptase and reverse transcriptases from other vendors at different temperatures. Reaction products were resolved on an alkaline agarose gel.

## Superior performance in long RT-PCR

Designed with proprietary mutations for enhanced performance, Maxima H Minus Reverse Transcriptase is capable of full-length cDNA synthesis from very long RNA templates (Figure 2).



**Figure 2. Amplification of long targets in two-step RT-PCR.** Total RNA (1 µg) from mammalian cells was used in duplicate reverse transcription reactions with Maxima H Minus Reverse Transcriptase and reverse transcriptases from other vendors, according to manufacturers' recommendations. The resulting synthesized cDNA was used as templates for PCR. The products of the two-step RT-PCR were visualized on gels. Only Maxima H Minus Reverse Transcriptase was able to generate very long (13.3 kb) products with high yields.

## Ordering information

Product	Size	Cat. No.
Maxima Reverse Transcriptase	2,000 U/10,000 U/ 4 x 10,000 U	EP0741/EP0742/EP0743
Maxima H Minus Reverse Transcriptase	2,000 U/10,000 U/ 4 x 10,000 U	EP0751/EP0752/EP0753
Maxima H Minus First Strand cDNA Synthesis Kit	20 rxns/100 rxns	K1651/K1652
Maxima H Minus First Strand cDNA Synthesis Kit with dsDNase*	20 rxns/100 rxns	K1681/K1682
Maxima H Minus Double-Stranded cDNA Synthesis Kit	10 rxns	K2561
Maxima First Strand cDNA Synthesis Kit for RT-qPCR	50 rxns/200 rxns	K1641/K1642
Maxima First Strand cDNA Synthesis Kit for RT-qPCR with dsDNase*	50 rxns/200 rxns	K1671/K1672

**For Research Use Only. Not for use in diagnostic procedures.** © 2015 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.

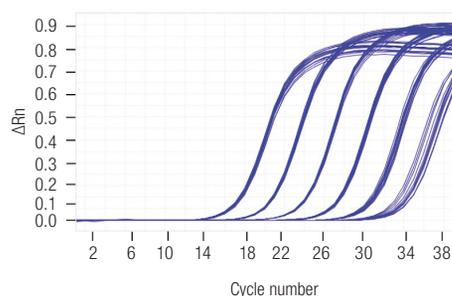
Country	Telephone Number	Fax Number	Email
Austria	01 97 002 0	01 97 002 600	info@at.vwr.com
Belgium	016 385 011	016 385 385	vwrbe@be.vwr.com
Czech Republic	+420 321 570 321	+420 321 570 320	info@cz.vwr.com
Denmark	43 86 87 88	43 86 87 90	info@dk.vwr.com
Finland	09 8045 5300	09 80 45 52 00	info@fi.vwr.com
France	0 825 02 30 30 (0,18 € TTC/min)	0 825 02 30 35 (0,18 € TTC/min)	info@fr.vwr.com
Germany	Freecall: 0800 702 00 07 *0,14 €/Min. aus d. dt. Festnetz	0180 570 22 22*	info@de.vwr.com
Hungary	(52) 521-130	(52) 470-069	info@hu.vwr.com
Ireland/Northern Ireland	01 88 22 222	01 88 22 333	sales@ie.vwr.com

Country	Telephone Number	Fax Number	Email
Italy	02-3320311/02-487791	800 152999/02-40090010	info@it.vwr.com
The Netherlands	020 4808 400	020 4808 480	info@nl.vwr.com
Norway	02290	815 00 940	info@no.vwr.com
Poland	058 32 38 200	058 32 38 205	info@pl.vwr.com
Portugal	21 3600 770	21 3600 798/9	info@pt.vwr.com
Spain	902 222 897	902 430 657	info@es.vwr.com
Sweden	08 621 34 00	08 621 34 66	kundservice@se.vwr.com
Switzerland	044 745 13 13	044 745 13 10	info@ch.vwr.com
United Kingdom	0800 22 33 44	01455 55 85 86	uksales@uk.vwr.com

GO TO [VWR.COM](http://VWR.COM) FOR THE LATEST NEWS, SPECIAL OFFERS AND DETAILS OF YOUR LOCAL VWR DISTRIBUTOR

## Ideal for RT-qPCR—sensitive and reproducible quantification

Maxima Reverse Transcriptase is capable of reproducible cDNA synthesis from a wide range of template amounts, making it an ideal choice for RT-qPCR experiments (Figure 3). The premixed solutions of Thermo Scientific™ Maxima™ First Strand cDNA Synthesis Kits further help improve reproducibility and save time during reaction setup.



**Figure 3. Reproducible cDNA synthesis and low variability (<1% SD/C<sub>i</sub>) with a wide range of starting RNA amounts.**

First-strand cDNA was generated from 100 ng to 1 pg of total RNA from mammalian cells using a Maxima First Strand cDNA Synthesis Kit in 16 replicated reactions. Synthesized cDNA was used as a template in qPCR with Thermo Scientific™ Maxima™ SYBR™ Green/ROX™ qPCR Master Mix.