

Introducing the newest addition to the Thermo Scientific QPCR master mix range. The combination of the new Verso™ RT enzyme and ABsolute™ Blue QPCR master mix gives you the most convenient to use QRT-PCR kit on the market.

## Thermo Scientific Verso™ QRT-PCR



Licensed  
for QPCR

### Optimized QPCR

Sensitivity of a QPCR reaction depends on having a highly optimized system which includes plates, seals and master mixes that have been developed specifically for QPCR. Our consumables have been optimized to ensure the highest level of fluorescent transmission for maximum sensitivity and reproducibility.

### ABsolute Clarity

Inert blue dye for easy visualization of your QRT-PCR reaction.

### ABsolute Sensitivity

Combining Verso™ enzyme and Thermo-Start™ *Taq* polymerase has generated a unique enzyme system that gives sensitive results from low copy number template.

### ABsolute Flexibility

Available in a 1- or 2- step format as well as multiple pack sizes for every application and throughput.

### ABsolute Ease of Use

There is no need to perform an RNase H digestion after cDNA synthesis, therefore streamlining the reaction protocol.

### ABsolute Time

The new RT Enhancer eliminates the need for DNase treatment of samples saving you time.

### ABsolute Versatility

Multiple priming options to optimize your specific RNA template.

### Thermo Scientific Verso™

Verso™ QRT-PCR kits are the newest addition to the Absolute™ Blue QPCR master mix product line. This is the only QRT-PCR kit available that contains an inert blue dye for easier visualization of the reagents during the aliquoting process. Significant improvements, which are detailed below, have been made to minimize variance between samples. These kits are available optimized for most QPCR machines and available in a range of pack sizes for any throughput.

### Clearly Versatile

The Verso™ RT enzyme mix has an improved dynamic range allowing you to detect a wider range of starting template concentrations. The Verso™ 1-step QRT-PCR kit can detect 100ng - 1pg of total RNA or 10ng-1pg of mRNA. The 2-step kit can detect from 1ug-1pg of total RNA or 100ng-1pg of mRNA (Fig. 2).

### Clearly Fast

Verso™ enzyme mix performs the reverse transcription step much faster than other enzymes. This

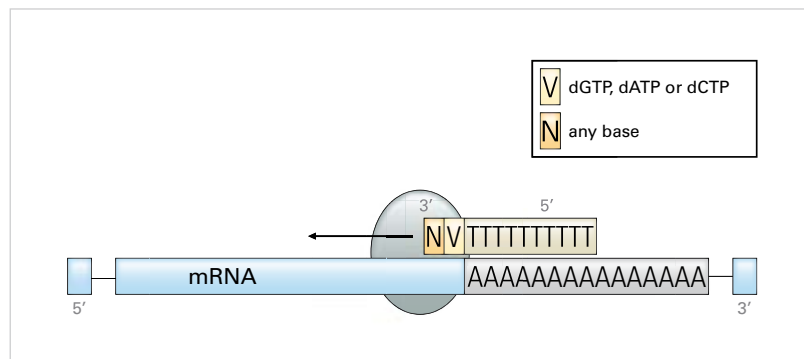


Fig. 1: Anchored oligo dT allows for a larger amount of cDNA to be produced and increase in rxn sensitivity.

decreases the cDNA transcription time to 5 minutes in the 1-step kit and 15 minutes in the 2-step kit. This results in a significant overall reduction in QRT-PCR protocol times.

### Clearly Sensitive

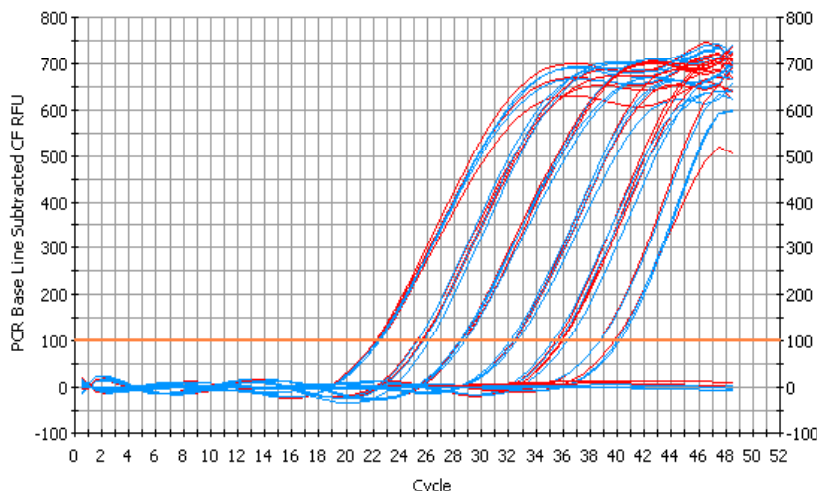
RT enzymes can generate primer dimers during a reaction. Using Verso™ RT enzyme eliminates primer dimer formation. By preventing primer dimers, there is a decrease in variability leading to an increase in sensitivity and efficiency.

### Clearly Flexible

The Verso™ QRT kits include two types of primers, anchored oligo

dT and random hexamers. The use of both primer strategies increases the amount of cDNA produced and the diversity of the cDNA pool. The anchored oligo dT anneals to mRNA at the mRNA: poly A tail junction (Fig. 1). This allows for efficient transcription of mRNA every time. The random hexamers anneal randomly along the RNA template to transcribe any type of RNA.

Fig. 2: cDNA was reverse transcribed from 100ng-1pg of human RNA, using either Verso™ (red) or the market leading competitor RT enzyme (blue). A sample of this cDNA from both enzymes was amplified using AB-1132, thus directly comparing the reverse transcriptases. The data shows that Verso™ performs exactly the same as this gold standard reverse transcriptase.



Verso™ RT enzyme (red) equals the performance of the leading competitor enzyme.

### Clearly Clean

Verso™ QRT-PCR kits contain a unique enzyme that degrades double stranded DNA during the transcription of RNA. This step removes any contaminating DNA, eliminating the need for DNase treatment. The RT Enhancer removes the same amount of DNA from RNA preparations as DNase 1 without the long incubation or harsh inactivation steps that degrade DNA (Fig. 4).

### Clearly Visible

Verso™ QRT-PCR kits include an inert blue dye for easier visualization of the master mix during the aliquoting process. The blue color offers an immediate check that the correct amount of master mix has been added (Fig. 3).

### Clearly Specific

Thermo-Start™, a chemically modified *Taq* DNA polymerase, is the core component of the QPCR master mix. Due to the chemical modification it remains completely inactive until an incubation at 95°C



**Fig. 3:** 25µl of Thermo Scientific Absolute™ Blue aliquoted into the AB-0800 available from Thermo Scientific. The inert blue dye makes it much easier to visualize the reagents aliquoted into the PCR plate.

for 15 minutes is performed. Since Thermo-Start™ is not active during the RT step there are no non-specific products being generated, giving a more specific QPCR reaction.

### Clearly Natural

Verso™ QRT-PCR kits include dTTP in the nucleotide mix instead of dUTP. Utilizing this naturally occurring base the, efficiency of a reaction can be increased by more than 5%.

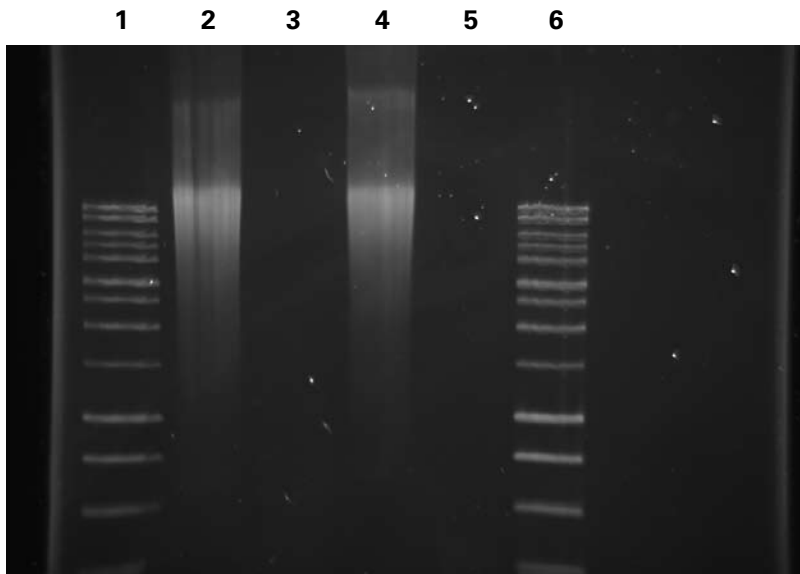
### Clearly Optimized

The buffer system of the Verso™ 1-step QRT kits have been specifically optimized to work across a wide range of RNA templates for both transcription and amplification. Special enhancers and additives have been used to generate a reaction mixture which allows both RT and *Taq* polymerase to work optimally. This results in the most sensitive and efficient reaction available on the market.

### Clearly Simple

An RNase inhibitor is included with the Verso™ RT enzyme. This mix of enzyme significantly reduces the amount of RNase contamination while simplifying pre-RT setup steps.

**Fig. 4:**  
Key (left to right)  
Lane 1: 1kb DNA size marker  
Lane 2: DNA only  
Lane 3: DNA incubated with RT Enhancer  
Lane 4: DNA only  
Lane 5: DNA incubated with DNase I  
Lane 6: 1kb DNA size marker



**Equal degradation of DNA is seen when comparing the RT enhancer and DNase 1.**

## Compatible QPCR cyclers for Thermo Scientific Verso™ Kits:

	+ ROX Vial	Incl. ROX	Low ROX	SYBR® Green + ROX Vial	SYBR® Green ROX	SYBR® Green Low ROX	SYBR® Green Fluorescein
<b>ABI PRISM®</b>							
7000		•			•		
7300		•			•		
7500			•			•	
7700		•			•		
7900/7900HT		•			•		
<b>Bio-Rad</b>							
iCycler™	•						•
MyiQ™	•						•
iQ™ 5	•			•			
Opticon™/2	•			•			
Chromo 4™	•			•			
MiniOpticon	•			•			
<b>Stratagene</b>							
Mx4000™	•		•	•		•	
Mx3000™/3005™	•		•	•		•	
<b>Techne</b>							
Quantica™	•			•			
<b>Cepheid</b>							
SmartCycler™	•			•			
<b>Corbett</b>							
Rotor-Gene™	•			•			
<b>Roche</b>							
Lightcycler® 480	•			•			
<b>Eppendorf</b>							
Realplex	•			•			

## Ordering information & available pack sizes:

	200 X 25µl rxns (2x1.25ml)	400 X 25µl rxns (1x5ml)		200 X 25µl rxns (2x1.25ml)
<b>Verso™ 1-Step QRT-PCR Kit</b>				<b>Verso™ 2-Step QRT-PCR Kit</b>
+ Separate ROX Vial	AB-4100/A	AB-4100/C		+ Separate ROX Vial
Incl. ROX	AB-4101/A	AB-4101/C		Incl. ROX
Low ROX	AB-4102/A	AB-4102/C		
				SYBR® Green + Separate ROX Vial
SYBR® Green + Separate ROX Vial	AB-4104/A	AB-4104/C		AB-4112/A
SYBR® Green ROX	AB-4105/A	AB-4105/C		SYBR® Green ROX
SYBR® Green Low ROX	AB-4106/A	AB-4106/C		SYBR® Green Fluorescein
SYBR® Green Fluorescein	AB-4107/A	AB-4107/C		AB-4114/A

\* Samples are available on request. For more information visit [www.thermo.com/qpcr](http://www.thermo.com/qpcr)

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