

Next Generation qRT-PCR

The qRT-PCR can be performed in a two-step or a one-step mode

qRT-PCR (Reverse Transcription-quantitative Polymerase Chain Reaction) is a powerful and sensitive technique that enables quantitative studies at the genetic level.

abm offers a comprehensive repertoire of quality products dedicated to performing qRT-PCR in both the two-step and one-step mode.

cdNA Synthesis Product Line

- **EasyScript™ cDNA Synthesis Kit**
Cat.No.: G233, G234
- **EasyScript™ cDNA Synthesis SuperMix**
Cat.No.: G451, G452
- **EasyScript Plus™ cDNA Synthesis Kit**
Cat.No.: G235, G236
- **EasyScript Plus™ cDNA Synthesis SuperMix**
Cat.No.: G453, G454
- **5X All-In-One RT MasterMix**
Cat.No.: G485, G486



qPCR Product Line

- **EvaGreen 2X qPCR MasterMix**
Cat.No.: MasterMix-R, MasterMix-LR
MasterMix-iC, MasterMix-S
- **TaqProbe 2X qPCR MasterMix**
Cat.No.: MasterMix-P, MasterMix-PL, MasterMix-PC
MasterMix-PS, MasterMix-PM
- **KiloGreen 2X qPCR MasterMix**
Cat.No.: MasterMix-KR, MasterMix-KL
MasterMix-KC, MasterMix-KS



One-Step qRT-PCR Product Line

- **One-Step EvaGreen qRT-PCR Kit**
Cat.No.: G471-R, G471-LR, G471-iC, G471-S



abm's product line offers superior performance to meet all your qRT-PCR needs



Minimal Interfering of qPCR

Reverse Transcriptase (RTase) is a well-known, potent inhibitor of PCR. A result of strategic protein engineering and buffer optimization, **abm's EasyScript™** and **EasyScript Plus™** RTases demonstrate the least amount of inhibition to downstream qPCR applications when compared to RTases from other leading brands.

Figure 1 (A-E): 20 µl RT reactions (100 pg of Human RNA per reaction) were performed with various RTases available on the market. 1 µl of each RT product was then used directly as template for GAPDH amplification using qPCR MasterMixes from various leading brands.

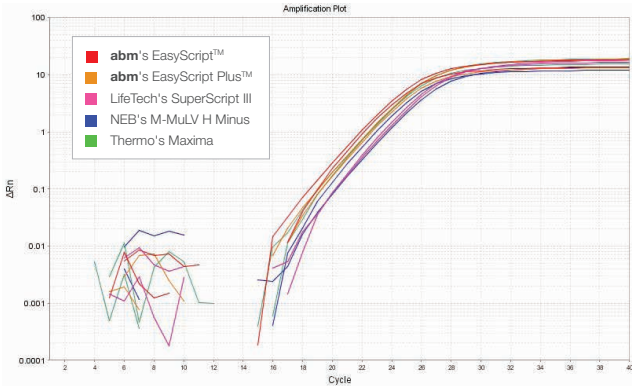


Figure 1A: With **abm** EvaGreen qPCR MasterMix

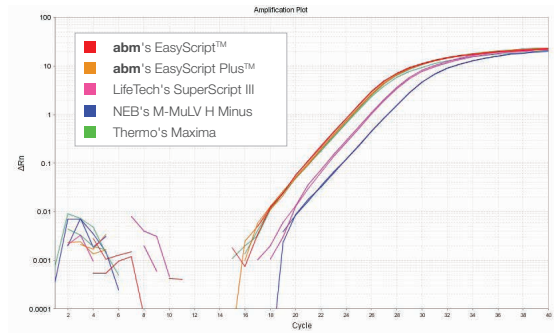


Figure 1B: With ABI Power SYBR Green Master Mix

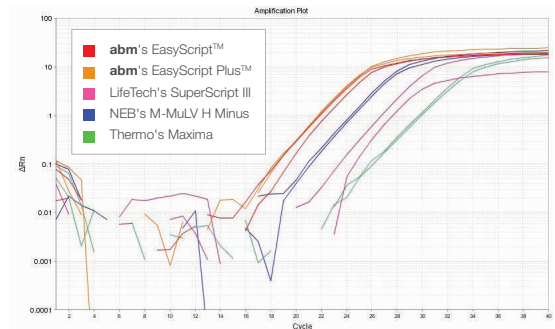


Figure 1C: With Biorad iQ SYBR Green Supermix

A Competitive Edge

Available in various formats, each tuned to the needs of a specific type of qPCR machine, **abm's EvaGreen qPCR MasterMix** provides accurate and robust qPCR performance. Although the EvaGreen 2X qPCR MasterMix is compatible with a wide-range of commercially available RTases, a combination of EvaGreen 2X qPCR MasterMix with **abm's EasyScript™** or **EasyScript Plus™** RTase, outperforms all leading qRT-PCR reagents when compared for early Ct values (figure above).

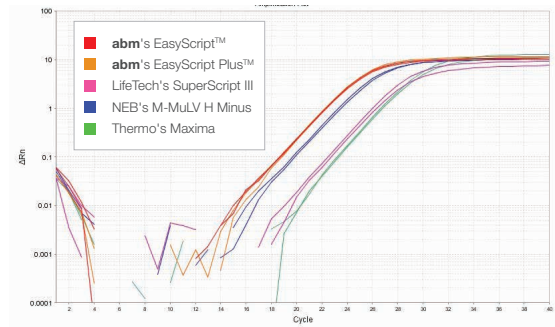


Figure 1D: With Takara SYPR Premix Ex Taq II

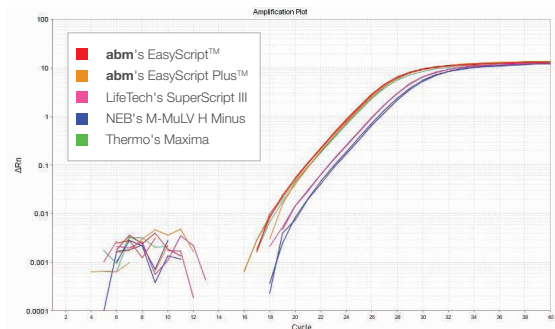


Figure 1E: With Roche FastStart SYBR Green Master



Accomplish RT in 15 minutes

Time is always of the essence when it comes to experiment design and set-up. **abm's** EasyScript™ and EasyScript Plus™ RTases allow you to achieve reliable and reproducible results in as little as 15 minutes.

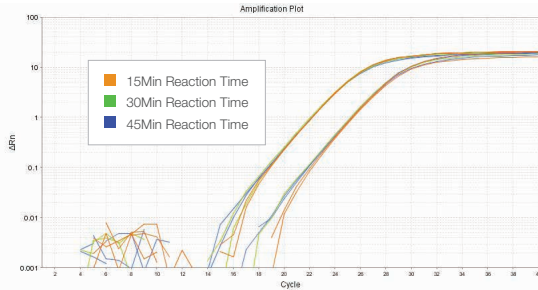


Figure 2: 20 µl RT reactions (100 pg and 800 pg of RNA per reaction) were carried out for 15, 30, or 45 minutes. 1 µl of each RT product was then used directly as template for GAPDH amplification.

Benchmark Quality for All Product Formats

In efforts to providing flexibility and convenience to the end user, **abm** offers EasyScript™ and EasyScript Plus™ in a range of kit formats. While each kit offers its own unique feature(s) suited to the downstream PCR/qPCR application, all the products are designed, and guaranteed, to meet uncompromised quality standard.

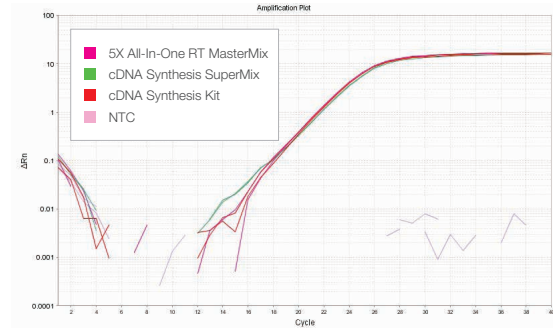


Figure 3: 20 µl RT reactions (100 pg of RNA per reaction) were performed with various **abm's** RT products: cDNA Synthesis Kit, cDNA Synthesis SuperMix, and 5X All-In-One RT MasterMix. 1 µl of each RT product was then used directly as template for GAPDH amplification.

abm Reverse Transcription Selection Guide

cDNA Synthesis Kit

Flexible priming using **abm's** EasyScript™ and EasyScript Plus™ cDNA Synthesis Kit

→

- RNA
- EasyScript™ or EasyScript Plus™
- Oligo (dT) / Random Primers / Gene Specific Primers
- dNTPs
- RNaseOFF Ribonuclease Inhibitor
- 5X RT buffer

abm G233, G234, G235, G236

→ RT →

cDNA Synthesis

cDNA Synthesis SuperMix

Minimize pipetting errors with **abm's** EasyScript™ and EasyScript Plus™ cDNA Synthesis SuperMix

→

- RNA
- EasyScript™ or EasyScript Plus™
- 2X Reaction Mix

abm G451, G452, G453, G454

→ RT →

cDNA Synthesis

All-in-One RT MasterMix

Ultimate convenience and reproducibility using **abm's** 5X All-in-One RT MasterMix

→

- RNA
- 5X All-in-One RT MasterMix

abm G485, G486

→ RT →

cDNA Synthesis

Eliminate Non-Specific Amplification

A common problem, non-specific amplification is a wasteful and unwanted event. **abm's** EvaGreen 2X MasterMix offers minimal non-specific amplification owing to an optimized buffer system that works in tandem with a high efficiency HotStart DNA polymerase to ensure minimal signal-to-noise ratio. See below for a comparative analysis with other leading brands.

Figure 4 (A-E): Melt curves of the corresponding MasterMixes from the reactions shown in Figure 4A-4E.

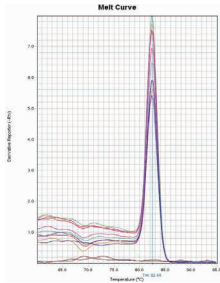


Figure 4A: **abm's** EvaGreen qPCR MasterMix

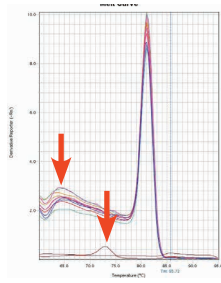


Figure 4B: ABI Power SYBR Green MasterMix

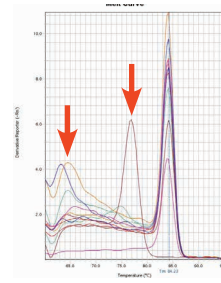


Figure 4C: Biorad iQ SYBR Green SuperMix

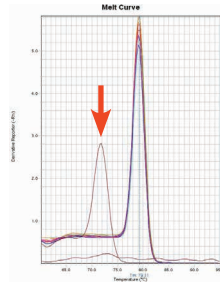


Figure 4D: Takara SYBR Premix Ex Taq II

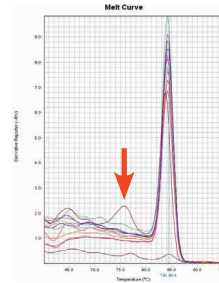


Figure 4E: Roche FastStart SYBR Green Master

One-Step qRT-PCR Solution

The EvaGreen qPCR system for One-Step RT-qPCR is a proprietary blend of **abm's** high efficiency EasyScript™ RTase, HotStart DNA polymerase and optimized stabilizers and enhancers. This Kit offers the following key features:

- Seamless coupling of two separate reactions
- Optimized single buffer system for both RT and qPCR
- Superb performance with respect to sensitivity and signal-to-noise ratio
- High sensitivity over a wide range of RNA concentration
- Cost-effective, time-efficient, and user-friendly

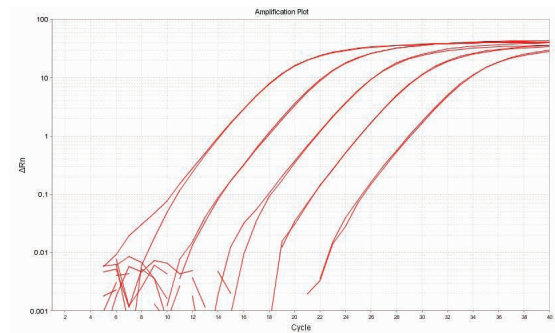


Figure 5: 20 µl One-Step qRT-PCR reactions (20 ng, 2 ng, 200 pg, 20 pg or 2 pg of RNA per reaction) were carried out with **abm's** One-Step EvaGreen qRT-PCR kit for GAPDH amplification.

Technical Support

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