

# PR1MA™ qMAX Green One-Step RT-qPCR Kit

## Description

The qMAX Green One-Step RT qPCR Kit is a ready-to-use 2X master mix and companion thermostable reverse transcriptase for use in highly sensitive real-time RT-PCR assays in which intercalating dye-based detection provides the option of a post amplification melt profile. The kit is powered by HS Taq DNA Polymerase, qMAX MMLV derived Reverse Transcriptase, and an optimized buffer chemistry for robust first-strand cDNA synthesis and real-time PCR in a single tube. The mix delivers earlier quantification cycle values (Ct) and broad range detection for increased sensitivity, speed, reliability and reproducibility. The qMAX Green One-Step qPCR Mix can be used to quantify a specific target RNA from either total RNA or mRNA while reducing the number of pipetting steps and time to result.

Upon receipt, immediately store at -20°C. Avoid excessive freeze/thaw cycles. When stored as directed, this product will retain its activity for 12 months from date of receipt. The product may also be stored at 4°C for up to one month.

## Limitations of Use

For research purposes only. Not intended for therapeutic or diagnostic use.

## Quality Control

PR1MA enzymes and reagents are tested under general assay conditions for activity, reproducibility, efficiency, heat activation, sensitivity, and absence of nuclease contamination and nuclease activity. This product is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

MidSci is not responsible for consequential or incidental damages, direct or indirect, resulting from use of this product. MidSci guarantees the performance of this product as described when used in accordance with these instructions.

## General Guidelines

### Reaction Mix

The reaction mix has been optimized to perform with maximum sensitivity and efficiency. The use of additives is not required or recommended.

**20X Thermostable RTase:** The 20X Thermostable Reverse Transcriptase is blended with a potent RNase Inhibitor.

**Template:** Use 10pg to 100ng total RNA per reaction (or a minimum of 0.01pg mRNA per reaction).

**Reverse Transcription:** Recommended incubation is 45°C for 10 minutes. For regions of high secondary structure, incubation temperatures up to 55°C may be used.

**Primers:** Primers should have a predicted melting temperature of approximately 60°C, using default Primer 3 settings (<http://frodo.wi.mit.edu/primer3/>).

**Amplicon:** Optimal extension is achieved at 72°C. The optimal amplicon length should be 80bp to 200bp and should not exceed 400bp.

When comparing qMAX Green One-Step RT-qPCR Mix with a reagent from an alternative supplier, we strongly recommend amplifying from a 10-fold template dilution series. Loss of detection at low template concentration is the only direct measurement of sensitivity. An early Ct value is not an indication of good sensitivity, but rather an indication of reaction speed.

## Technical Support

For trouble-shooting and tech support, contact us at [tech@midsci.com](mailto:tech@midsci.com) or call 800 227-9997.

11/20 sd

## Reaction Setup

Thaw the qMax Green One-Step Mix and vortex briefly. Set up reaction as follows:

Component	20µl reaction	Final concentration/Notes
2X qMax Green One-Step Mix	10µl	1X
Forward Primer (10µM)	0.8µl	400 nM
Reverse Primer (10µM)	0.8µl	400 nM
20X RTase Blend	1.0µl	1X Add prior to RNA
Template RNA	10pg to 100ng Total RNA	>0.01pg mRNA
PCR grade water	to final reaction volume	

For other volumes, adjust the amount of each component accordingly.

## Protocol

Program the qPCR instrument using the following conditions, acquiring data, on the appropriate channel:

- 1 cycle, 45°C for 10 minutes. For RNA with a high degree of secondary structure, use 55°C.
- 1 cycle, 95°C for 2 minutes for an initial denaturation and polymerase activation.
- Perform 30-40 cycles of: 95°, 5 seconds (denaturation)  
60° - 65°C, 20-30 seconds (do not exceed 30 seconds and do not use temperatures below 60°C).

MidSci offers a full line of PCR enzymes and master mixes. Visit [www.midsci.com](http://www.midsci.com) for details.

## Package contents and reordering

### PR1MA qMax Green One-Step RT-qPCR Kit, Low ROX, 100 reactions

Catalog number PR2120-L-100  
Includes 1ml reaction mix, 100µl RTase.

### PR1MA qMax Green One-Step RT-qPCR Kit, Low ROX, 500 reactions

Catalog number PR2120-L-500  
Includes 5x1ml reaction mix, 5x100µl RTase.

### PR1MA qMax Green One-Step RT-qPCR Kit, Low ROX, 1000 reactions

Catalog number PR2120-L-1000  
Includes 10x1ml reaction mix, 10x100µl RTase.

### PR1MA qMax Green One-Step RT-qPCR Kit, High ROX, 100 reactions

Catalog number PR2120-H-100  
Includes 1ml reaction mix, 100µl RTase.

### PR1MA qMax Green One-Step RT-qPCR Kit, High ROX, 500 reactions

Catalog number PR2120-H-500  
Includes 5x1ml reaction mix, 5x100µl RTase.

### PR1MA qMax Green One-Step RT-qPCR Kit, High ROX, 1000 reactions

Catalog number PR2120-H-1000  
Includes 10x1ml reaction mix, 10x100µl RTase.

qMax Green  
One-Step  
RT-qPCR Kit  
PR2120

Reverse Transcriptase and Buffer

100 Reaction Package contains:  
1ml of 2X qMax One Step Mix and  
100µl of 20X RTase Blend  
100 reactions, Based on 20µl total reaction volume

Store at -20°C upon receipt

888-227-9997 [custserv@midsci.com](mailto:custserv@midsci.com)