

Product Profile

miRCURY[®] LNA[®] miRNA PCR System

LNA-enhanced PCR system for unmatched sensitivity and specificity

The miRCURY LNA miRNA PCR System combines the advantage of a universal RT reaction with the sensitivity and specificity of LNA-enhanced qPCR primers. You can complete your miRNA expression analysis in just 3 hours with minimal hands-on time and obtain reliable results even from low-abundance samples such as serum or plasma. The system includes individual miRNA PCR Assays, pre-designed miRNA PCR Panels (miRNome, Focus) as well as custom-designed PCR assays and panels.

Benefits of the miRCURY LNA miRNA PCR System include:

- Superior sensitivity – reliable quantification of individual miRNAs from as little as 1 pg total RNA
- Superior specificity – LNA-enhanced primers enable target differentiation by a single nucleotide
- Minimal false-positives and sensitive detection, regardless of AT content
- Easy-to-design custom products using the online LNA design algorithms and tools
- Accurate miRNA profiling in 96- or 384-well plates using just 20 ng total RNA

Accurate miRNA quantification from just 1 pg total RNA

LNA-enhanced and T_m -normalized primers provide extremely sensitive PCR amplification and enable accurate miRNA quantification from as little as 1 pg total RNA (Figure 1). Pre-amplification from low-abundance samples such as serum/plasma is not required. miRNAs can be profiled in 384-well plates with only 20 ng input RNA.

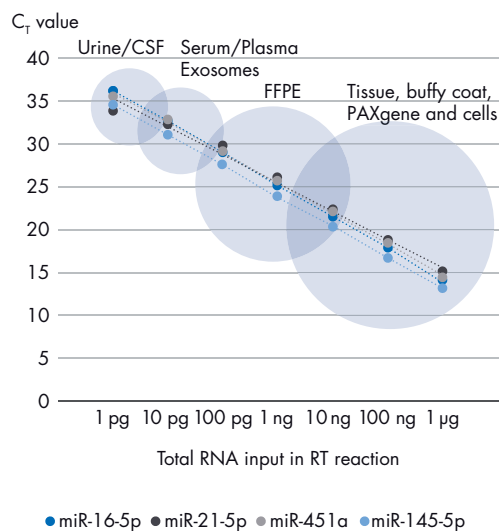


Figure 1. Accurate miRNA quantification from down to 1 pg total RNA. Data from serial dilutions of human AM6000 total RNA are shown. All miRNA assays exhibit linear readout with correlation coefficients $R^2 > 0.99$.

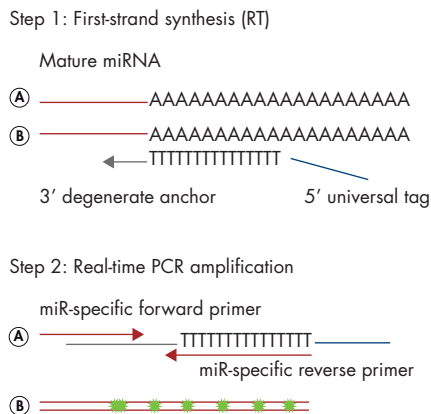
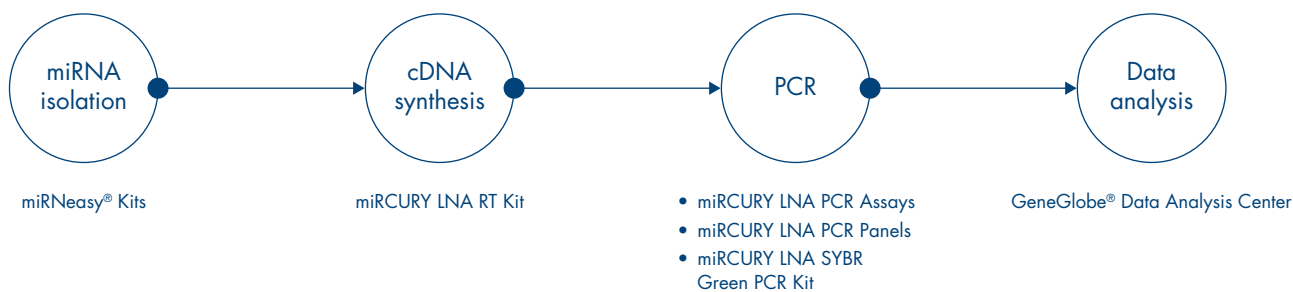


Figure 2. Schematic of the miRCURY LNA miRNA PCR System. A poly (A) tail is added to the mature miRNA template (step 1). cDNA is synthesized using a poly(T) primer with a 3' degenerate anchor and a 5' universal tag (step 1B). The cDNA template is then amplified using two miRNA-specific, LNA-enhanced forward and reverse primers (step 2A). SYBR® Green is used for the detection (step 2B).

A PCR quantification system designed for miRNA

Quantification of miRNA can be challenging due to the short sequences and the high homology between miRNA families. But the miRCURY LNA miRNA PCR System overcomes these issues and provides a solution for all of your miRNA quantification needs. This system combines a high-performance, universal RT reaction with LNA PCR amplification using two miRNA-specific primers. The components and functionality of the system are detailed in Figure 2.

A solution for every step of your miRNA qPCR workflow – cDNA synthesis to data analysis



miRCURY LNA RT Kit

The miRCURY LNA RT Kit provides a one-step, single-tube universal reverse transcription reaction. The kit transcribes all miRNAs from most sample sources. You can use the same RT reaction for both individual PCR assays and PCR panels. The UniSP6 reverse transcription control template is

included in the RT buffer, adding convenience and control over your experiments. For rigorous quality control of every step, including RNA isolation efficiency, use the RNA Spike-In Kit, for RT with the corresponding miRNA PCR Assays or QC PCR Panels.

Find out more about miRCURY LNA PCR kits at www.qiagen.com/miRCURY

miRCURY LNA SYBR Green PCR Kit

The miRCURY LNA SYBR Green PCR Kit is a high-performing PCR master mix kit specifically designed for the LNA-enhanced qPCR Assays of the miRCURY LNA miRNA PCR System. The kit ensures the best possible sensitivity and specificity, and use of other master mixes with the system will impact the quality of your results.

miRCURY LNA miRNA PCR Assays

miRCURY LNA miRNA PCR Assays are mature miRNA-specific forward and reverse primers that enable highly specific detection. All assays are designed using the most up-to-date sequence information and are conveniently available through the GeneGlobe portal. Our offering includes over 20,000 individual wet-lab or in-silico validated miRCURY LNA miRNA PCR primer sets. In addition to these pre-designed assays, you can also order Custom PCR Assays for detecting novel miRNAs with our easy-to-use online tool.

miRCURY LNA miRNA PCR Panels

miRCURY LNA miRNA PCR Panels are ready-to-use PCR panels in 96- or 384-well plates. In addition to pre-designed panels for miRNome screening of the most highly expressed miRNAs, we offer panels for focus areas such as serum/plasma, cancer or exosome research. PCR plates are ready to use and contain miRNA-specific forward and reverse primers optimized for use with miRCURY LNA SYBR Green PCR Kit. The control assays on each pre-designed panel include: PCR control, RT control, spike-in controls and endogenous controls.

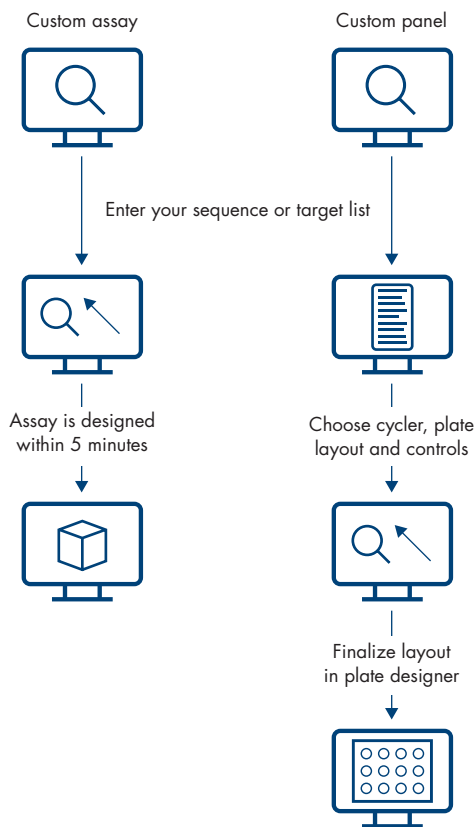
Custom miRNA PCR Assays

Create your own LNA-enhanced miRNA PCR primer sets for any novel miRNA. Both forward and reverse primers are LNA-enhanced and are designed according to our algorithm based on many years of LNA primer design experience. Visit GeneGlobe and the corresponding product catalog page to get started with your own custom design.

Custom miRNA PCR Plates

Order your own miRNA PCR plates containing pre-designed miRCURY LNA miRNA PCR Assays from our database, or add your own custom-designed PCR assays. Validate your NGS results, or simply design the PCR plates according to your research needs

Easy online ordering of custom products:
browse product page to get started



Ordering Information

Product	Contents	Cat. no.
miRCURY LNA RT Kit	For 8–64 cDNA synthesis reactions: 5x RT Reaction Buffer, 10x RT Enzyme Mix, UniSp6, RNA Spike-in template, RNase-free water	339340
RNA Spike-in Kit, for RT	UniSp2, UniSp4, UniSp5 RNA Spike-in template mix, cel-miR-39-3p RNA Spike-in template	339390
miRCURY LNA SYBR Green PCR Kit (200, 600 or 4000)	For 200, 600 or 4000 PCR reactions: 2x miRCURY SYBR Green PCR Master Mix, miRCURY SYBR Green PCR Buffer and dNTP mix, ROX™ Reference Dye, Nuclease-free water	339345 339346 339347
miRCURY LNA miRNA PCR Assay	LNA-optimized forward and reverse primers for miRNA quantification; for 200 reactions	339306*
miRCURY LNA miRNA Custom PCR Assay	Custom-designed and LNA-optimized forward and reverse primers for miRNA quantification; for 200 reactions	339317*
miRCURY LNA miRNA miRNome PCR Panels	Pre-made panels of human or mouse & rat LNA PCR Assays for miRNome profiling; 384-well format	339322*
miRCURY LNA miRNA Focus PCR Panel	Pre-made panel of LNA PCR Assays focused on research area; 96-well or 384-well format	339325*
miRCURY LNA miRNA QC PCR Panel	Pre-made panel of LNA PCR Assays for QC analysis; 96-well or 384-well format	339331*
miRCURY LNA miRNA Custom PCR Panel	Custom layout PCR plates of LNA-optimized PCR assays for miRNA quantification; 96-well or 384-well format	339330*

*Exact product number varies according to particular primer sequence and configuration.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Find out more about miRCURY LNA PCR kits at www.qiagen.com/miRCURY

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