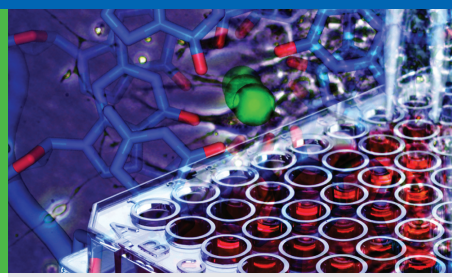
System Biosciences
Accelerating Discoveries in Functional Genomics

microRNA Research

QuantiMir™ RT Kit

Quantitate MicroRNAs by Real-time qPCR



MicroRNA and siRNA Expression Analysis

The QuantiMir™ RT Kit is used to generate PCR-ready cDNA from total RNA to measure any small RNA. This system is much more sensitive, quantitative and easier than Northerns or RNase protection experiments. Synthesize enough cDNA template for multiple measurements from a single RT reaction. Profile any small RNA including microRNAs, siRNAs and piRNAs.

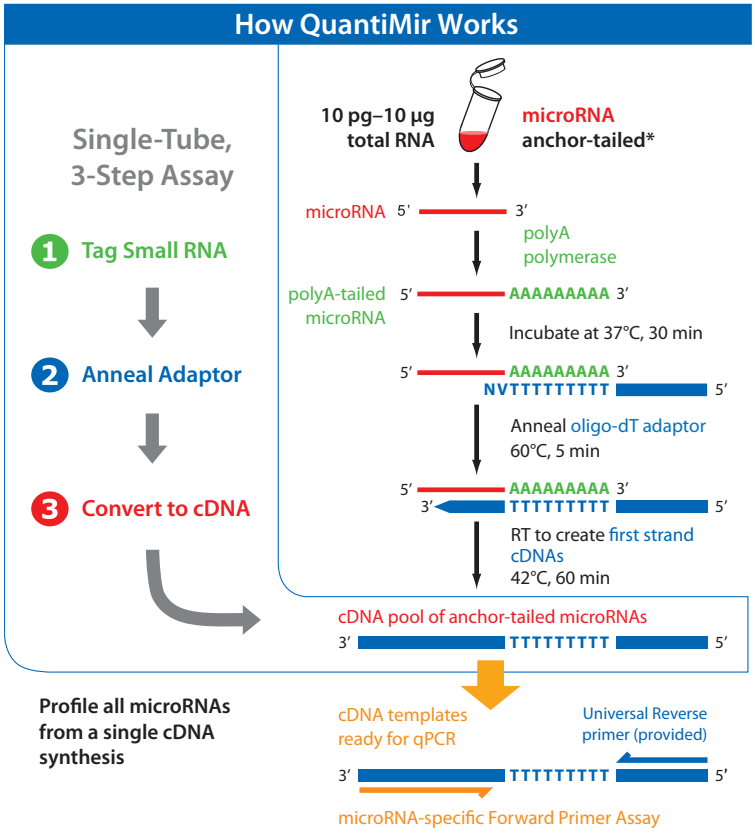
Efficient, Sensitive and Accurate

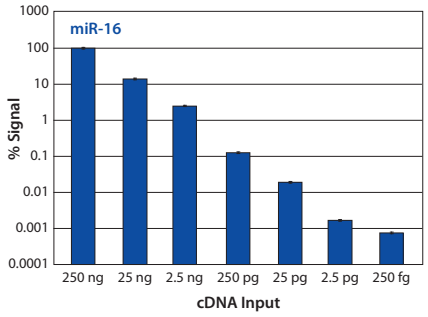
Highly efficient poly(A) tailing and reverse transcription in a single reaction tube provides uniform cDNA synthesis of microRNAs. The optimized reaction conditions and buffer components maximize cDNA yield from picograms to several micrograms of input total RNA. The universal 3′ tag sequence incorporated during reverse transcription enables scalable and accurate microRNA expression analysis by qPCR. Profile thousands of different microRNAs from a single reverse transcription reaction.

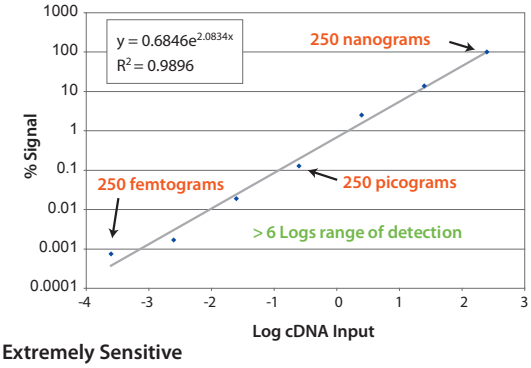
Highlights

- Measure and profile microRNA expression levels from any tissue source
- Validate the existence of predicted and newly discovered microRNA species
- Sensitive down to 10 pg or less of total starting RNA
- A single tube, 3 step process completed in 2 hours
- Rapidly tag and convert all small RNAs into detectable cDNA for thousands of qPCR measurements

How QuantiMir Works







Extremely Sensitive

Achieve measurements from picograms to several micrograms of input RNA with excellent accuracy. Detect microRNA expression changes in a dynamic range of at least 6 log-fold differences.

www.systembio.com/quantimir

Design Your Own microRNA Assays

Creating your own microRNA qPCR assay is simple. Design the forward "sense" orientation primer to perform the end-point or qPCR reactions along with the universal 3′ reverse primer. Choose the exact sequence of the microRNA or siRNA being studied when designing the forward primer.

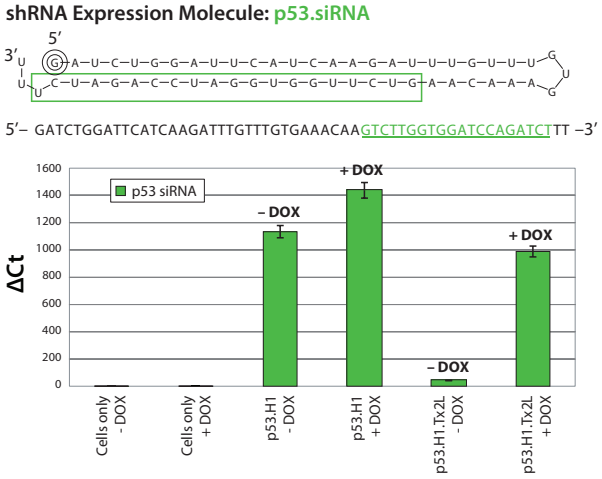
If the microRNA under study is known and documented, using the miRBase database can be an easy starting point: **http://microrna.sanger.ac.uk/sequences**

Mature Sequence MIMT0000069	
Accession	MIMAT0000069
ID	hsa-miR-16
Sequence	14 – uagcagcacguaaauauuggcg – 35 Get sequence
Evidence	experimental; cloned [1,5,7], Northern [1,6]

Directly use sequence of mature microRNA you want to quantitate as the forward primer oligo in your microRNA assay.

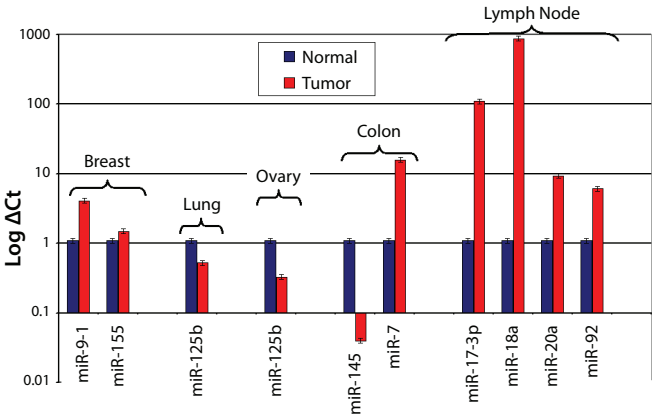
siRNA Expression from Knockdown Experiments

shRNA Expression Molecule: p53.siRNA



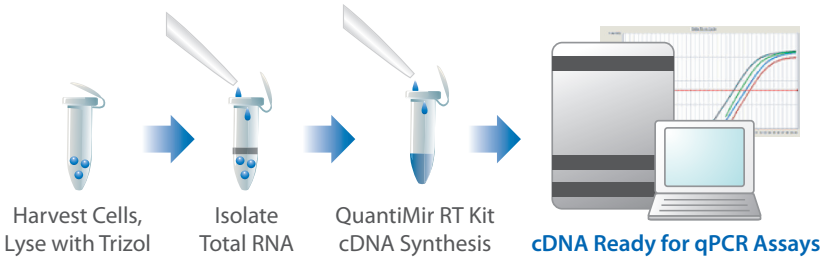
Example of siRNA detection and quantitation from short hairpin RNA expression constructs.

Profile microRNA Expression Changes in Cancer



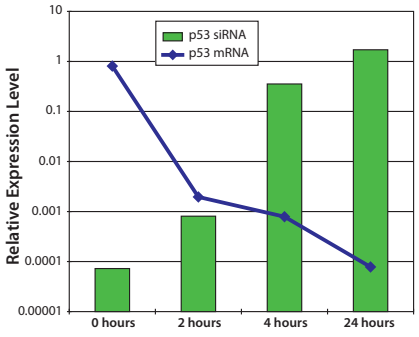
Example of quantitative microRNA profiling of 9 microRNAs in 5 different Normal and Tumor-derived RNA samples. Several log-fold differences were measured.

Quantitate Both the siRNA and Target mRNA from 1 cDNA Synthesis Reaction



Easy one-step lysis to use directly in microRNA cDNA synthesis.

The Cells-to-Cts™ kit allows cDNA synthesis directly from cell lysates. QuantiMir cDNA is compatible with measuring small RNAs (siRNA, microRNA) as well as mRNA transcripts.



QuantiMir can be used to monitor p53 siRNA production and p53 mRNA knockdown from the same QuantiMir cDNA sample.

We Also Offer Custom Services

System Biosciences offers a wide-range of custom services to support your research, allowing you to spend less time making tools, and more time making discoveries. To learn more, visit our website at www.systembio.com/service or call us at 888-266-5066.

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