

# miRNA in the qNPA™ ArrayPlate

miRNA MEASUREMENT

The qNPA™ ArrayPlate System\* measures miRNA and mRNA in the same sample well using the same gene expression technology, greatly simplifying experimental design. No need to compare the results of different experiments produced from different techniques—measure the expression and regulation of the entire gene pathway in a single one-well assay.

## Features include—

- Whole-plate CVs of biological replicates are typically ~10%
- Detection of as few as 15,000 miRNA molecules
- Measure any combination of 47 miRNAs and genes in the same sample well
- No tedious RNA purification or reverse transcription

## About the qNPA ArrayPlate System

The qNPA ArrayPlate System is a simple high throughput gene expression analysis platform providing consistent, precise, and reproducible data. Test thousands of samples per day using standard laboratory automation without RNA purification, amplification, or labeling.

**No More** RNA Extraction.

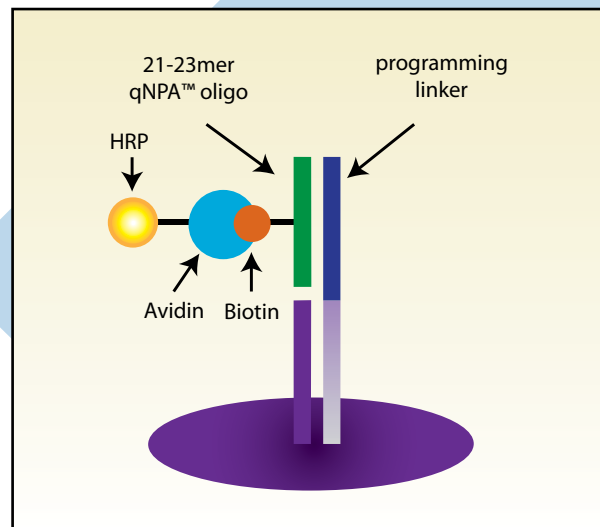
**No More** cDNA Synthesis.

**No More** RNA Labeling.

**No More** RNA Amplification.

**No More Wasted Samples.**

## miRNA Detection Scheme



Detection of miRNAs on the qNPA™ ArrayPlate System uses a biotinylated qNPA protection oligonucleotide. Avidin conjugated to horseradish peroxidase (HRP) is added to generate the chemiluminescent signal.

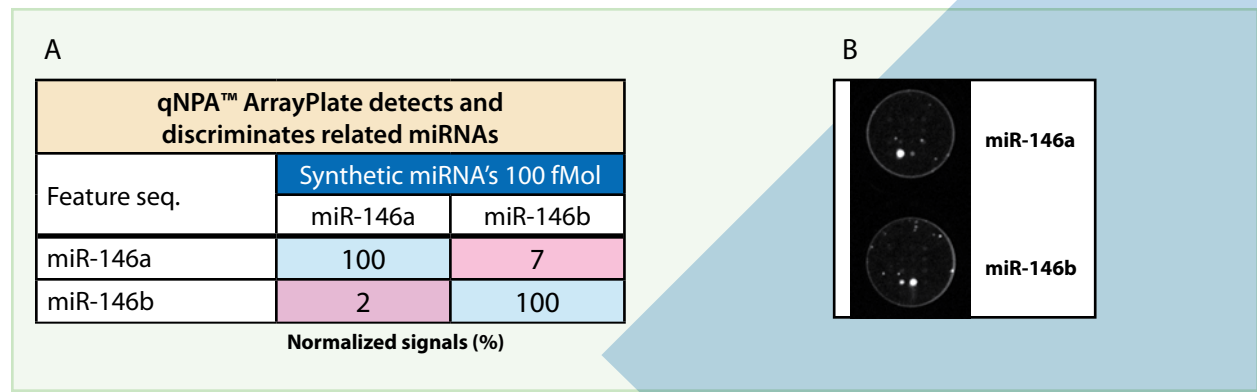
**Measure miRNA and mRNA  
in the same sample well**

# miRNA Performance

## miRNA MEASUREMENT

The performance of the qNPA™ ArrayPlate and RT-qPCR was assessed for discrimination of two closely related miRNA sequences.

Name	miRNA Sequence
miR-146a	UGAGAACUGAAUCCAUGGGUU
miR-146b	UGAGAACUGAAUCCAUAAGGCU



**100 fmol of synthetic miRNAs were added to Lysis Buffer and processed using the standard qNPA ArrayPlate protocol for miRNA.** The signals from the two wells (**Fig. 2B**) were quantified and the results normalized to 100%. Very little cross-reactive signal was obtained (pink) (**Fig. 2A**), indicating good sequence discrimination between closely related RNA sequences.

RT-qPCR results using a stem-loop RT primer		
Synthetic miRNA	Competition Probe Set	
	miR-146a	miR-146b
miR-146a	20	21
miR-146b	28	19

CT Values

**Synthetic miRNAs were amplified and measured according to the manufacturer's protocol.** The low CT values in the mismatched probe sets (orange) indicate a significant amount of cross reactivity in the RT portion of the assay.

*The qNPA ArrayPlate shows superior discrimination between closely related RNA sequences*