

## TaqMan® Array Rodent MicroRNA Cards

These cards are part of a collection of TaqMan® Array Gene Signature Cards that enable analysis of hundreds of TaqMan® Assays on a micro fluidic card with minimal effort.

MicroRNAs (miRNAs) are a class of naturally occurring noncoding RNAs that play a key role in gene regulation. These transcripts are highly conserved, single-stranded RNAs (~22 nucleotides) that are cleaved from larger hairpin precursor transcripts. MicroRNAs exert their regulatory effects through the RNA interference (RNAi) machinery by cleaving or, most often, repressing the translation of their messenger RNA (mRNA) targets and are predicted to regulate at least one third of all human genes [1].

This newly discovered form of posttranscriptional gene regulation has been demonstrated to play important roles in a variety of fundamental cellular processes, including cell proliferation, differentiation, and death [2]. As a result, miRNAs may be directly involved in the development and progression of human diseases such as cancer, thereby representing an important regulatory mechanism to understand.

Comprehensive coverage of Sanger miRBase v15 is enabled across a two-card set of TaqMan® Array MicroRNA Cards (Cards A and B) for a total of 641 and 373 unique assays, specific to mouse or rat miRNAs, respectively. In addition, each card contains six control assays—five carefully selected candidate endogenous control assays (three relevant to mouse and three relevant to rat), and one negative control assay. Card A focuses on more highly characterized

miRNAs, while Card B contains many of the more recently discovered miRNAs along with the miR\* sequences. To meet the needs of more focused studies, Cards A and B can be purchased and run separately.

For a convenient and streamlined workflow, each TaqMan® Array MicroRNA Card is used in conjunction with Megaplex™ RT Primers—predefined pools of up to 381 RT primers. Two pools of Megaplex™ RT Primers (Rodent Pools A and B) are available to complement the assays on the respective cards. Additionally, when assay sensitivity is of the utmost importance, or when sample is limiting, a preamplification step using Megaplex™ PreAmp Primers can be added. The PreAmp Primers significantly enhance the ability to detect low-expression miRNAs, enabling the generation of a comprehensive expression profile using as little as 1 ng of input total RNA.

Together, these products create the ideal workflow for running hundreds of TaqMan® MicroRNA Assays in as little as 5 hours, and are the perfect solution for miRNA profiling applications. Combined with the data quality advantages of TaqMan® MicroRNA Assays—unsurpassed sensitivity, high specificity, and wide dynamic range—this provides significant advantages over microarrays.

### References

1. Zamore PD, Haley B (2005) *Science* 39:1519–1524.
2. Miska EA (2005) *Curr Opin Genet Dev* 15:563–568.

### TaqMan® Array Gene Signature Cards

Gene Signature Card Name	# of miRNA Targets + Controls	Format	# of Cards	Cat. No.
<b>Rodent Array MicroRNA Card</b>				
Rodent Card A v2	375 + 6	Format 384	4 cards	4398967
Rodent Card B v3	375 + 6	Format 384	4 cards	4444899
Rodent A and B Card Set v3	750 + 6	Format 384	8 cards	4444909

### Associated Products

Reagents	Cat. No.
<b>Megaplex™ RT for TaqMan® MicroRNA Assays</b>	
<ul style="list-style-type: none"> <li>• Megaplex™ RT Primers               <ul style="list-style-type: none"> <li>Rodent Pool A v2</li> <li>Rodent Pool B v3</li> </ul> </li> <li>• Megaplex™ PreAmp Primers               <ul style="list-style-type: none"> <li>Rodent Pool A v2</li> <li>Rodent Pool B v3</li> </ul> </li> </ul>	Multiple †
<b>TaqMan® MicroRNA Reverse Transcription Kit</b>	
200 reactions	4366596
1,000 reactions	4366597
<b>TaqMan® 2X Universal Master Mix II, No UNG , 1 x 5 mL</b>	4440040

† Visit [mirna.appliedbiosystems.com](http://mirna.appliedbiosystems.com) for product information.

