Data Sheet

GeneChip® miRNA Array

The GeneChip® miRNA Array enables you to

- **get the most comprehensive miRNA coverage with 71 organisms on a single array – human, mouse, rat, canine, monkey, rice, and more**
- **have confidence in your results with the industry's most reliable microarray platform**
- **leverage your existing Affymetrix instrument and skills for cost savings and convenience**
- **integrate data with gene expression and genotyping data for a powerful approach to cancer studies, toxicology and stem cell research, and regulatory pathway analysis**

Introduction

Non-coding RNAs are emerging as a major component of the regulatory circuitry that underlies the development and physiology of complex organisms. MicroRNAs (miRNAs) are small (typically 21-23 nt), single-stranded RNAs that regulate gene expression by partial, complementary base pairing to specific mRNAs. This annealing inhibits protein translation and in some cases facilitates degradation of mRNA. Small nucleolar RNAs (snoRNAs)—short, non-translated RNAs that play a role in processing ribosomal RNAs following transcription—have also been implicated in the regulation of alternative splicing.

The GeneChip® miRNA Array is a powerful tool for studying the regulatory mechanisms mediated by miRNAs and their importance in cancer and other diseases. miRNA studies can also facilitate the discovery of biomarkers and disease signatures.

Features of the GeneChip miRNA Array:

- comprehensive miRNA coverage of 71 organisms, including human, mouse, rat, canine, and rhesus macaque—all important species for research and pharmaceutical development
- Sanger miRNA database V11 content and additional human snoRNAs and scaRNAs
- 46,228 probes comprising 7,815 probe sets

Array content

The array contains 46,228 probes comprising 7,815 probe sets, including controls. Content is derived from the Sanger miRBase miRNA database v11 (April 15, 2008, http://microrna.sanger.ac.uk)[1,2,3]. Probe sets targeting human snoRNAs and scaRNAs are derived from the snoRNABase (www.snorna.biotoul.fr/coordinates.php)[4] and the Ensembl Archive (www.ensembl.org/biomart/martview).

References

1. Griffiths-Jones S., Saini H. K., van Dongen S., Enright A. J. miRBase: tools for microRNA genomics. *Nucleic Acids Research* **36**:D154-D158 (2008).

2. Griffiths-Jones S., Grocock R. J., van Dongen S., Bateman A., Enright A. J. miRBase: microRNA sequences, targets and gene nomenclature. *Nucleic Acids Research* **34**:D140-D144 (2006).

3. Griffiths-Jones S. The miRNA Registry. Nucleic Acids Research **32**:D109-D111 (2004).

4. Lestrade L., and Weber M. J. snoRNA-LBME-db, a comprehensive database of human H/ACA and C/D box snoRNAs. *Nucleic Acids Research* **34**:D158-162 (2006).

Specifications

Array format	400
Feature size	11 µm
Oligonucleotide probe length	Up to 25-mer, depending on miRNA target length (perfect match only)
Probes/sequence	Four for miRNAs, ≤ 11 for other non-control RNA target
Non-control RNA target content	
6,703 probe sets for miRBase miRNAs	Four identical probes/set
499 probe sets for snoRNAs from ENSEMBL	≤ 11 probes/set
401 probe sets for snoRNAs from snoRNABase	≤ 11 probes/set
22 probe sets for scaRNAs from snoRNABase	≤ 11 probes/set
Control target content	
95 GC-binned background probe sets	≤ 94 probes/set
54 BioB, C, D, Cre r^2 hybridization control probe sets	11 probes/set
9 BioB, C, D, Cre hybridization control probe sets	20 probes/set
22 oligonucleotide spike-in control probe sets	10 identical probes/set (i.e., each probe is tiled 10 times)
10 identical probe sets for human 5.8s rRNA(gi555853)	11 probes/set

Ordering information

Part Number	Product	Description
Arrays		
901324	GeneChip® miRNA Array	Contains 2 arrays
901325	GeneChip® miRNA Array	Contains 6 arrays
901326	GeneChip® miRNA Array	Contains 30 arrays
Supporting products		
900301	Control Oligo B2 (included in Hybridization Control Kit)	Sufficient for 30 reactions
900720	GeneChip® Hybridization, Wash, and Stain Kit	Sufficient for 30 reactions

The GeneChip® miRNA Array is covered by Affymetrix' limited warranty as set forth under the "Limited Warranty" section below. Affymetrix will provide no support for the array. Affymetrix will not support any assay protocol used by the customer with the array. The array is not functionally tested by Affymetrix, and Affymetrix provides no warranty regarding the functional performance of the array in any specific customer application.

1. Limited warranty. Affymetrix warrants to you (but not to any third party) that GeneChip® Arrays shall be free from physical defects. Affymetrix' sole and exclusive liability and your sole and exclusive remedy under the foregoing warranty, is to provide you with a replacement array provided if the following conditions are met: (i) you used the affected array prior to its expiration date and notify Affymetrix promptly after you become aware of the defect; (ii) you cooperate with Affymetrix in Affymetrix' investigation as to the cause of the alleged physical defect and provide any information required by Affymetrix; and (iii) Affymetrix shall make the final determination in good faith, as to whether: (a) any physical defect in fact exists; and (b) if so, whether such physical defect was caused by Affymetrix' manufacturing process, and not user error, improper storage or handling, or any other cause for which Affymetrix is not responsible.

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