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Data Sheet

▓ GeneChip® Rhesus Macaque Genome Array

The rhesus macaque, *Macaca mulatta*, is an important model organism for human disease research. The GeneChip® Rhesus Macaque Genome Array enables researchers to study gene expression in the rhesus animal model by simultaneously interrogating over 47,000 *M. mulatta* transcripts. Additionally, the Rhesus Genome Array contains several relevant viral organisms for studying host-disease immune response.

The Rhesus Genome Array was created in collaboration with leading rhesus researchers through the GeneChip® Consortia Program. The array design is based on content from the Baylor School of Medicine's rhesus macaque whole-genome shotgun assembly and GenBank® STSs, ESTs, and mRNAs.

Applications

The GeneChip® Rhesus Macaque Genome Array provides comprehensive transcriptome coverage of the rhesus macaque genome and leverages the homology of expressed sequences represented on the GeneChip Human Genome U133 Plus 2.0 Array to annotate the Baylor School of Medicine's rhesus macaque whole-genome shotgun assembly.

Rhesus macaques are widely used as animal models for studying many different human disease conditions, including neurobiology, cardiovascular research, pharmacology, toxicology, and disease progression of AIDS, to name a few.

The Rhesus Genome Array may also be used to study other primate animal models. The high degree of sequence similarity between the rhesus macaque and other widely used Cercopithecoidea family members, such as baboons, African green monkey, and cynomolgus macaques, may allow the selec-

tive use of the Rhesus Macaque Genome Array for cross-species expression monitoring between primates.

The GeneChip Rhesus Macaque Genome Array provides another tool to investigate the underlying genetic mechanisms and complex genetic traits important in human health.

Array Profile

The GeneChip Rhesus Macaque Genome Array is a 49-format, 11-micron array design and contains a combination of 11 and 16 probe pair probe sets which allow for cross-species expression detection. The sequence information for this array was selected from public data sources including data from the University of Nebraska (Norgren, *et al*.), the Baylor School of Medicine's rhesus macaque whole-genome shotgun assembly (October 1, 2004), and GenBank® STSs, ESTs, and mRNAs up to March 30, 2005. Additionally, probe sets were designed to

Critical Specifications	
Probe Sets:	52,024 rhesus probe sets, 683 viral probe sets + 13 rhesus control probe sets
Transcripts:	~ 47,000 rhesus transcripts + 3 rhesus control transcripts
Number of arrays in set	One
Array format	49
Feature size	11 μm
Oligonucleotide probe length	25-mer
Probe pairs/sequence	11 or 16
Hybridization controls:	*bioB, bioC, bioD* from *E. coli* and *cre* from P1 Bacteriophage
Poly-A controls:	*dap, lys, phe, thr, trp* from *B. subtilis*
Housekeeping/Control genes:	beta-actin, elongation factor 1, GAPDH
Detection sensitivity	1:100,000*

* As measured by detection in comparative analysis between a complex target containing spiked control transcriptions and a complex target with no spikes.

interrogate rhesus transcripts orthologous to the 3' end of human transcripts (GeneChip® Human Genome U133 Plus 2.0 Array and RefSeq sequences up to March 2005).

The array contains 52,024 *M. mulatta* probe sets to monitor gene expression of ~ 47,000 *M. mulatta* transcripts.

Instrument Software Requirements

- GeneChip® Scanner 3000, enabled for High-Resolution Scanning* or GeneChip® Scanner 3000 7G
- GeneChip® Operating Software (GCOS) v1.1.1, which contains the High-Resolution Scanning Update

*GeneChip Scanner 3000 High-Resolution Update is standard on all instruments shipped starting in September 2003 with serial number series 502. Previous versions (serial number series 501) will require the 00-0110 GeneChip Scanner 3000 High-Resolution Update to be installed.

Ordering Information

GeneChip® Rhesus Macaque Genome Array

GeneChip® Rhesus Macaque Genome Array

900655	*Contains 2 Arrays*
900656	*Contains 6 Arrays*
900657	*Contains 30 Arrays*

Supporting Products

Part Number	Product Name	Description
900493	GeneChip® One-Cycle Target Labeling and Control Reagents[1]	Sufficient for 30 reactions. Contains: · IVT Labeling Kit · One-Cycle cDNA Synthesis Kit · Sample Cleanup Module · Poly-A RNA Control Kit · Hybridization Controls
900494	GeneChip® Two-Cycle Target Labeling and Control Reagents[1,2]	Sufficient for 30 reactions. Contains: · IVT Labeling Kit · Two-Cycle cDNA Synthesis Kit · Sample Cleanup Module · Poly-A RNA Control Kit · Hybridization Controls

[1]Individual Kit components may be ordered separately.

[2]For the intermediate IVT step with unlabeled nucleotides, please order the MEGAscript® T7 Kit directly from Ambion.

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