



Data Sheet

GeneChip® Porcine Genome Array

The domestic pig, *Sus scrofa*, is an important model organism for biomedical research of human disease conditions, as well as for agriculture research due to its worldwide importance as a food source. The GeneChip® Porcine Genome Array is an important new tool for studying gene expression in the porcine animal model. The GeneChip Porcine Genome Array contains 23,937 probe sets to interrogate 23,256 transcripts in pig, which represents 20,201 genes. Gene sequences for the array were selected from public databases and include content from UniGene Build 28 (August 2004) and GenBank® mRNA up to August 24, 2004.

Applications

Domestic pigs are an important food source and, because of the many anatomical and physiological similarities to human, are also used extensively for medical research. In particular, the pig makes an excellent research model for wound repair, reproductive diseases, cancer, cardiovascular disease, and diabetes.

Gene expression analysis is also important in livestock research. Gene expression profiles have been useful in the study of the effects of biotic and abiotic stress, pathogen interaction, and other quantitative traits in food organisms, with the ultimate goal of strain improvement.

Array Profile

The GeneChip® Porcine Genome Array provides comprehensive coverage of the *Sus scrofa* transcriptome. The array contains 23,937 probe sets that interrogate approximately

23,256 transcripts from 20,201 *S. scrofa* genes. The sequence information for this array was selected from public data sources including UniGene Build 28 (August 2004), GenBank® mRNAs up to August 24, 2004, and GenBank porcine mitochondrial and rRNA sequences. Probe sets consist of up to eleven probe pairs. The array format consists of eleven micron features synthesized on the 100 format.

Instrument Software Requirements

- GeneChip® Scanner 3000, enabled for High-Resolution Scanning*
- 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.

Critical Specifications

Number of probe sets, <i>Sus scrofa</i>	23,937
Number of transcripts, <i>Sus scrofa</i>	23,256
Total # of probe sets including species specific controls	23,973
Number of arrays in set	One
Array format	100
Feature size	11 µm
Oligonucleotide probe length	25-mer
Probe pairs/sequence	11
Hybridization controls:	<i>bioB</i> , <i>bioC</i> , <i>bioD</i> from <i>E. coli</i> and <i>cre</i> from P1 Bacteriophage
Poly-A controls:	<i>dap</i> , <i>lys</i> , <i>phe</i> , <i>thr</i> , <i>trp</i> from <i>B. subtilis</i>
Housekeeping/Control genes:	Porcine genes from Test3 Array: Alpha Actin, Angiotensinbinding protein, CTLA4, Erythropoietin receptor, GAPDH, inflammatory response protein 6, and Leptin. Additionally, there are newly selected control probe sets for Beta Actin (ACTB), Glyceraldehyde-3-phosphate dehydrogenase (GAPD, G3PD, GAPDH), Eukaryotic elongation factor 1 alpha 1 (EEF1A1).
Detection sensitivity	1:100,000*

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

Supporting Products

Part Number	Product Name	Description
900493	One-Cycle Target Labeling and Control Reagents ¹	Sufficient for 30 reactions. Contains: <ul style="list-style-type: none">• IVT Labeling Kit• One-Cycle cDNA Synthesis Kit• Sample Cleanup Module• Poly-A RNA Control Kit• Hybridization Controls
900494	Two-Cycle Target Labeling and Control Reagents ^{1,2}	Sufficient for 30 reactions. Contains: <ul style="list-style-type: none">• IVT Labeling Kit• Two-Cycle cDNA Synthesis Kit• Sample Cleanup Module• Poly-A RNA Control Kit• Hybridization Controls

¹Individual Kit components may be ordered separately.

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

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Ordering Information

GeneChip[®] Porcine Genome Array

GeneChip[®] Porcine Genome Array

900623 *Contains 2 Arrays*

900624 *Contains 6 Arrays*

900625 *Contains 30 Arrays*

To Order

North America

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Part No. 701796 Rev. 1

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