



Data Sheet

GeneChip® Canine Genome 2.0 Array

Canis familiaris is an important model organism for biomedical research of human disease conditions. The GeneChip® Canine Genome 2.0 Array enables researchers to simultaneously interrogate 18,000 *C. familiaris* mRNA/EST-based transcripts and over 20,000 non-redundant predicted genes.

This array was created in collaboration with leading canine researchers through the Affymetrix GeneChip® Consortia Program and was designed based on content from *Canis familiaris* UniGene Build #11 (April, 2005), GenBank® mRNAs up to April 15, 2005, and the BROADD1 gene predictions.

Applications

The GeneChip® Canine Genome 2.0 Array is the second generation GeneChip brand array for expression profiling in dogs. With the recent completion of the canine genome assembly, the Canine 2.0 Array incorporates gene models and expressed sequences to comprehensively represent the dog transcriptome.

Array Profile

The GeneChip Canine Genome 2.0 Array is a 64-format, 11-micron array design and contains 11 probe pairs per probe set. The sequence information for this array was selected from public data sources including *Canis familiaris* UniGene Build #11 (April, 2005), GenBank® mRNAs up to April 15, 2005, and gene predictions derived from the Boxer Dog Genome Project (BROADD1 Prediction Set, Broad

Institute), downloaded from EBI on May 9, 2005.

The array contains over 42,800 *C. familiaris* probe sets to monitor gene expression for over 18,000 *C. familiaris* mRNA/EST-based transcripts and over 20,000 non-redundant predicted genes.

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, or later

*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

Probe sets	42,860 canine probe sets + 10 new canine control probe sets
Transcripts	>18,000 canine EST/mRNA-based transcripts + >20,000 non-redundant canine gene predictions
UniGene clusters	~ 17,200 canine UniGene clusters
Number of arrays in set	One
Array format	64
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	beta-actin, elongation factor 1, GAPDH <i>Test3 controls</i> : actin, beta-3-adrenergic receptor, glucose-6-phosphatase, GAPDH, cytochrome p450
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.

Supporting Products

Part Number	Product Name	Description
900493	GeneChip® 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	GeneChip® 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® Canine Genome 2.0 Array

GeneChip® Canine Genome 2.0 Array

900725 *Contains 2 Arrays*

900726 *Contains 6 Arrays*

900727 *Contains 30 Arrays*



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