



Data Sheet

GeneChip® Chicken Genome Array

The GeneChip® Chicken Genome Array is a key research tool for the study of chicken genomics and chicken viral pathogens. Chicken is an ideal model organism for studying developmental biology, as embryonic development occurs *in ovo* rather than *in utero*, providing an easily accessible way for researchers to study stages of embryonic development. Historically, chicken has been an important model organism for pioneering efforts in studying gene regulation, viruses, cancer, and immunology.

The GeneChip Chicken Genome Array contains comprehensive coverage of 32,773 transcripts corresponding to over 28,000 chicken genes. The Chicken Genome Array also contains 689 probe sets for detecting 684 transcripts from 17 avian viruses. Sequence information for this array includes public content from GenBank®, Unigene Build 18 (May 2004), and 28,416 predicted genes from the Ensembl annotation effort of the complete chicken genome (version 1, released May 2004).

This unique design was created within the Affymetrix GeneChip Consortia Program in collaboration with leading chicken genetics researchers and provides scientists with a single array that can be used for the study of complex avian genetics.

Applications

Chicken is a key model organism for studying embryology, host viral interactions, immunology, gene regulation, as well as many additional agricultural research applications.

Chicken is an important food source in the United States and much of the world. The increasing demand for high-quality protein in the developing world is expected to be one of the most important trends in the future of agriculture. As a result, a better understanding of chicken genetics and viral pathogens will result in healthier flocks with fewer diseases. Additionally, a better knowledge of the chicken genome will be an enormous benefit to chicken researchers as well as scientists who use the chicken as a model organism for developmental biology and human therapeutics.

Array Profile

Sequence information for the GeneChip Chicken Genome Array can be used to study gene expression of 32,773 chicken and 684 viral transcripts. Species covered include *Gallus gallus* (chicken) and 17 different avian viruses.

Sequence information for this array was selected from the following public data sources: GenBank®, UniGene (Build 18;15 May 2004), and Ensembl (version 1, released May 2004). Probe sets on the array were designed with 11 oligonucleotide pairs to detect each transcript.

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Critical Specifications

Number of arrays in set	One
Number of <i>Gallus gallus</i> transcripts	32,773
Number of <i>Gallus gallus</i> probe sets	37,703 (including controls)
Number of avian viral transcripts	684
Number of avian viral probe sets	689
Feature size	11 µm
Oligonucleotide probe length	25-mer
Probe pairs/sequence	11
Control sequences included:	
Hybridization controls:	<i>bioB</i> , <i>bioC</i> , <i>bioD</i> , and <i>cre</i>
Poly-A controls:	<i>dap</i> , <i>lys</i> , <i>phe</i> , and <i>thr</i>
Housekeeping/Control genes:	eukaryotic translation elongation factor 1 alpha 1 (EEF1A1), beta Actin, GAPDH
Detection sensitivity	1:100,000*

*Verified with a panel of pre-labeled cRNA spike-ins prepared from cloned bacterial transcripts.

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.

Affymetrix[®] products can be purchased directly from Affymetrix in the United States, many European countries, and many Asian countries. For all other territories, please view a list of our distribution partners, which can be located at: <http://www.affymetrix.com/site/contact/index.affx>.

Ordering Information

GeneChip[®] Chicken Genome Array

GeneChip[®] Chicken Genome Array

900590 *Contains 2 Arrays*

900591 *Contains 6 Arrays*

900592 *Contains 30 Arrays*



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