AFFYMETRIX®

Data Sheet

GeneChip® Soybean Genome Array

The GeneChip® Soybean Genome Array was designed in close collaboration with the Soybean Research Community as part of the GeneChip® Consortia Program. The Soybean Array is an 11-probe pair, 11-micron feature size array, designed specifically to interrogate approximately 37,500 *Glycine max* (soybean) transcripts. This Soybean Genome Array also contains transcripts for studying two pathogens important for soybean research.

Power of the Probe Set — The key advantage of GeneChip technology is that each high-density array contains multiple probe pairs per probe set, providing multiple independent measurements for each transcript.

Applications

Soybean is a major source of food worldwide for humans, as well as livestock and dominates the world's supply of edible vegetable oils. Due to its economic significance, scientists around the world have a great interest in studying soybean genomics. The presence of two important soybean crop pathogens on the array also enables researchers to gain a better understanding of how the plant interacts with two of its most common pathogens. Understanding how the soybean plant responds to common pathogens enables scientists to identify genes involved in mechanism of action, and potentially discover natural resistance against their pathogens.

Array Profile

The GeneChip® Soybean Genome Array is a 49-format, 11-micron array design, and it contains 11 probe pairs per probe set. Sequence information for this array includes public content from GenBank® and dbEST. Sequence clusters were created from UniGene Build 13 (November 5, 2003). Purchasers of the array will have access to detailed sequence information via CD library files and through the online NetAffx™ Analysis Center.

In addition to extensive soybean coverage, the GeneChip® Soybean Genome Array includes probe sets to detect approximately 15,800 transcripts for *Phytophthora sojae* (a water mold that commonly attacks soybean crops) as well as 7,500 *Heterodera glycines* (cyst nematode pathogen) transcripts.

Instrument Software Requirements

- GeneChip® Scanner 3000, enabled for High-Resolution Scanning*
- GeneChip® Operating Software (GCOS) v1.1.1 or later, 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, *G. max*	>37,500
Number of transcripts, *G. max*	35,611
Number of probe sets, *P. sojae*	>15,800
Number of transcripts, *P. sojae*	15,421
Number of probe sets, *H. glycines*	>7,500
Number of transcripts, *H. glycines*	7,431
Number of arrays in set	One
Array format	49
Feature size	11 µm
Oligonucleotide probe length	25-mer
Probe pairs/sequence	11
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:	Soybean genes from the commercial GeneChip® TEST3 Array, including 18S rRNA, Actin, GSTa, cytochrome P450, SBP, and Ubiquitin. Additionally, there are newly selected control probe sets for actin and GAPDH from *G. max* (soy), actin and GAPDH from *H. glycines*, and actin from *P. sojae*.
Detection sensitivity	1:100,000[1]

[1]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: · 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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Ordering Information

GeneChip® Soybean Genome Array

GeneChip® Soybean Genome Array

900525 *Contains 2 arrays*

900526 *Contains 6 arrays*

To Order

North America
888-DNA-CHIP 888-362-2447

Europe
+44 (0) 1628 552550

Japan
+81-(0)3-5730-8200

AFFYMETRIX, INC.

3380 Central Expressway
Santa Clara, CA 95051 USA
Tel: 1-888-DNA-CHIP (1-888-362-2447)
Fax: 1-408-731-5441
sales@affymetrix.com
support@affymetrix.com

AFFYMETRIX UK Ltd

Voyager, Mercury Park
Wycombe Lane, Wooburn Green,
High Wycombe HP10 0HH
United Kingdom
UK and Others Tel: +44 (0) 1628 552550
France Tel: 0800919505
Germany Tel: 01803001334
Fax: +44 (0) 1628 552585
saleseurope@affymetrix.com
supporteurope@affymetrix.com

AFFYMETRIX JAPAN K.K.

Mita NN Bldg., 16 F
4-1-23 Shiba, Minato-ku,
Tokyo 108-0014 Japan
Tel: +81-(0)3-5730-8200
Fax: +81-(0)3-5730-8201
salesjapan@affymetrix.com
supportjapan@affymetrix.com

www.affymetrix.com Please visit our web site for international distributor contact information.

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