


GeneChip™ *E. coli* Genome 2.0 Array

Catalog Numbers 900550, 900551, and 900552

Pub. No. 701821 Rev. 4

 **WARNING!** Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from thermofisher.com/support.

Product use

The Applied Biosystems™ GeneChip™ *E. coli* Genome 2.0 Array contains probe sets to detect transcripts from the K12 strain of *E. coli* and three pathogenic strains of *E. coli*. Using the GeneChip™ *E. coli* Genome 2.0 Array, researchers can gain a comprehensive view of three pathogenic forms of *E. coli* while continuing ongoing research projects with the K12 strain. The GeneChip™ *E. coli* Genome 2.0 Array includes approximately 10,000 probe sets for all 20,366 genes present in four strains of *E. coli*. Due to the high degree of similarity between the *E. coli* strains, whenever possible, a single probe set is tiled to represent the equivalent ortholog in all four strains. The GeneChip™ *E. coli* Genome 2.0 Array tiles probe sets over the entire open reading frame (ORF) of *E. coli*, includes over 700 intergenic regions and probes for various antibiotic resistance markers, and incorporates additional control and reporter genes from the previous generation *E. coli* array. Sequence information for this array was selected from the ASAP database (*E. coli* Genome Project; University of Wisconsin-Madison) and the NCBI public databases. The ASAP database provided the sequence and annotation information for the K12 strain (m56 version) and the O157:H7-EDL933 strain (vers1 version) in April 2003. The NCBI databases provided the sequence information for the O157:H7-Sakai strain and CFT073 strain in May 2004.

Oligonucleotide probes are synthesized *in situ* complementary to each corresponding sequence. Eleven pairs of oligonucleotide probes are used to measure the level of transcription of each sequence represented.

Visit our website for a list of supporting manuals for procedures regarding target preparation, target hybridization, fluidics station setup, probe array scan, and data analysis.

Instrumentation and software required

- GeneChip™ Scanner 3000 7G
- GeneChip™ Fluidics Station 450
- GeneChip™ Hybridization Oven 645
- GeneChip™ Command Console™ (GCC) software

Critical specifications

Item	Specifications
Number of arrays	1
Array format	169
Feature size	11 µm
Probe pairs/sequence	11
Oligonucleotide probe length	25-mer
Number of genes	20,366
Hybridization controls	<i>bioB</i> , <i>bioC</i> , <i>bioD</i> from <i>E. coli</i> ; and <i>cre</i> from P1 Bacteriophage Note: Components in the 20X hybridization controls are expressed endogenously in <i>E. coli</i> .
Poly-A controls	<i>dap</i> , <i>lys</i> , <i>phe</i> , <i>thr</i> , and <i>trp</i> from <i>B. subtilis</i>
Fluidics protocol for FS450	Using the GeneChip™ Hybridization, Wash, and Stain Kit <ul style="list-style-type: none"> • FS450_0006 Using user-prepared reagents <ul style="list-style-type: none"> • Mini_prok2v1_450
Fluidics Protocol for FS400	Mini_prok2v1
Hybridization Volume	80 µL. The total fill volume of the cartridge is 100 µL.
Library Files	E_coli_2

Accessory files

Fluidics scripts

The fluidics script used depends on the array type, labeling protocol, and reagents used for cartridge processing. Refer to the GeneChip Fluidics Station Scripts support page to determine which fluidics script is appropriate for your application. The fluidics scripts can be downloaded from our website.

Library files

Library files contain information about the probe array design characteristics, probe use and content, and scanning and analysis parameters. These files are unique for each probe array. Additional information can be located under the specific array product on our website.

Ordering information

Unless otherwise indicated, all materials are available through thermofisher.com.

MLS: Fisher Scientific (fisherscientific.com) or other major laboratory supplier.

Product	Description	Cat. No.
GeneChip™ <i>E. coli</i> Genome 2.0 Array	2 arrays	900550
	6 arrays	900551
	30 arrays	900552

Product	Description	Cat. No.
Supporting products		
GeneChip™ DNA Labeling Reagent	30 reactions	900542
GeneChip™ Control Oligo B2, 3 nM	30 reactions	900301
GeneChip™ Eukaryotic Poly-A RNA Control Kit	Approximately 100 reactions	900433
GeneChip™ Hybridization, Wash, and Stain Kit ⁽¹⁾	30 reactions	900720

⁽¹⁾ Each kit contains 1 Hybridization Module, 1 Stain Module, 3 bottles of Wash Buffer A, and 1 bottle of Wash Buffer B, sufficient for 30 reactions. Individual kit components may be ordered separately.

Storage, handling, and stability

This cartridge array consists of a square glass substrate mounted in a plastic cartridge. The glass contains an array of oligonucleotides that, when mounted, is on the inner glass surface. A chamber in the plastic housing directly under the glass acts as a reservoir where hybridization and washing occur.

Although the inner glass surface of the probe array is protected, any contamination or scratches on the outer surface of the glass can compromise the accuracy of the scan. Avoid touching the surface of the glass with your fingers. Skin oils and other substances, such as lotions or ink, can fluoresce. If the surface of the glass is noticeably dirty, it can be carefully cleaned with a nonabrasive laboratory tissue.

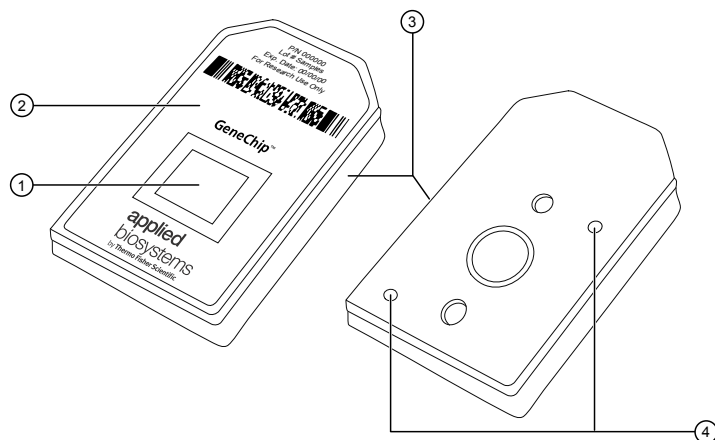


Fig. 1 Cartridge array.

- ① Probes on a glass substrate
- ② Plastic cartridge
- ③ Notch
- ④ Septa

The cartridge array should be stored at 2–8°C. Refer to the expiration date on the package label. Do not use arrays or reagents after the expiration date.

Customer and technical support

Visit thermofisher.com/support for the latest in services and support, including:

- Worldwide contact telephone numbers
- Product support, including:
 - Product FAQs
 - Software, patches, and updates
 - Training for many applications and instruments
- Order and web support
- Product documentation, including:
 - User guides, manuals, and protocols
 - Certificates of Analysis
 - Safety Data Sheets (SDSs; also known as MSDSs)

Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale found on Life Technologies' website at www.thermofisher.com/us/en/home/global/terms-and-conditions.html. If you have any questions, please contact Life Technologies at www.thermofisher.com/support.



Affymetrix Pte Ltd | 7 Gul Circle #2M-01 | Keppel Logistics Building | Singapore 629563

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Revision history: Pub. No. 701821

Revision	Date	Description
4	17 November 2017	Update document to current template.
3	19 July 2012	Baseline for revision history.

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