


GeneChip™ Human Genome U133 Plus 2.0 Array

Catalog Numbers 900470, 900466, and 900467

Pub. No. 701502 Rev. 6

 **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™ Human Genome U133 Plus 2.0 Array (HG-U133 Plus 2.0) is one microarray comprised of 1,300,000 unique oligonucleotide features covering over 47,000 transcripts and variants, which, in turn, represent approximately 39,000 of the best characterized human genes. All probe sets and normalization genes represented on the GeneChip™ Human Genome U133 Set (HG-U133A and HG-U133B probe arrays) are identically represented on the GeneChip™ Human Genome U133 Plus 2.0 Array. The majority of the probe sets used in the design of the array were selected from GenBank™, dbEST, and RefSeq. Sequence clusters were created from Build 133 of UniGene (April 20, 2001) and refined by analysis and comparison with a number of other publicly available databases, including the Washington University EST trace repository and the University of California, Santa Cruz, Golden-Path human genome database (April 2001 release). Sequences were further analyzed for correct orientation, false priming, false clustering, alternative splicing, and alternative polyadenylation.

In addition, 9,921 new probe sets represent approximately 6,500 new genes. These probe sets were selected from GenBank™, dbEST, and RefSeq. Sequence clusters were created from Build 159 of UniGene (January 25, 2003) and refined by analysis and comparison with a number of other publicly available databases, including the Washington University EST trace repository and the NCBI human genome assembly (Build 31).

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 complete list of supporting documentation including 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	Specification
Feature size	11 µm
Probe pairs/sequence	11
Array format	49
Hybridization controls	<i>bioB, bioC, bioD, and cre</i>
Poly-A controls	<i>dap, lys, phe, and thr</i>
Normalization controls	100 probe sets
Housekeeping controls	GAPDH, β-Actin, ISGF-3 (STAT1)
Hybridization volume	200 µL The total fill volume of the cartridge is 250 µL.
Library files	HG_U133 Plus 2.0

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.

Mask files

The GeneChip™ Human Genome U133 Plus 2.0 Array includes a set of human maintenance genes to facilitate the normalization and scaling of array experiments. This set of genes serves as a tool to normalize or scale your data prior to performing data comparison. This set of normalization genes shows consistent levels of expression over a diverse set of tissues. Mask files enabling the use of these probe sets for normalization and scaling are available on our website.

Comparison spreadsheets

Comparison spreadsheets are designed to assist in understanding the relationship between the data generated using different, but related, GeneChip™ expression probe arrays. Comparison spreadsheets are available 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™ Human Genome U133 Plus 2.0 Array	2 arrays	900470
	6 arrays	900466
	30 arrays	900467

Product	Description	Cat. No.
Supporting products		
GeneChip™ 3' IVT PLUS Reagent Kit	10 reactions	902415
	30 reactions	902416
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.

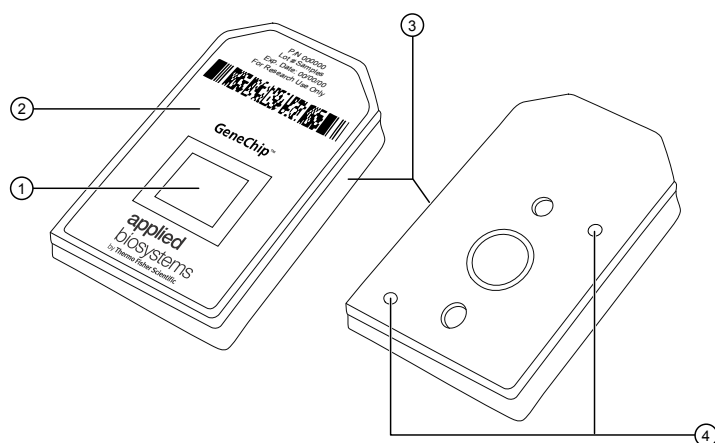


Fig. 1 Cartridge array.

- 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.



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Revision history: Pub. No. 701502

Revision	Date	Description
6	17 November 2017	Update document to current template.
5	04 February 2009	Baseline for revision history.

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