Human Genome U219 Array Plate

Catalog Numbers 901605, 901604 and 901595

Pub. No. 702857 **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™ Human Genome U219 Array Plate is designed for medium- and high-throughput microarray expression analysis and enables researchers to perform large-scale studies with minimum hands-on processing time per sample. Plates consist of 16, 24, or 96 microarrays and are offered as a part of the complete automated solution including target preparation, array washing, staining, and scanning instrumentations.

The Human Genome U219 Array Plates were designed with only Perfect Match (PM) probes and are offered in 3 configurations:

- 16-Array Plate—2 columns of 8 microarrays in each column for a total of 16 identical microarrays on the same plate
- 24-Array Plate—3 columns of 8 microarrays in each column for a total of 24 identical microarrays on the same plate
- 96-Array Plate—12 columns of 8 microarrays in each column for a total of 96 identical microarrays on the same plate

Sequences used in the design of the arrays were selected from the UniGene database 219 (build date March 30, 2009), RefSeq version 36 (13 July 2009) and full-length human mRNA's from GenBank™ (downloaded May 12, 2009).

The Human Genome U219 Array Plate is comprised of more than 530,000 probes covering over 36,000 transcripts and variants, which, in turn, represent more than 20,000 genes mapped through UniGene or via RefSeq annotation.

The EST and mRNA sequences used in the design were clustered and assembled to create consensus sequences that represent alternative splice forms, and each assembly was then analyzed for orientation and alternative 3′ end evidence. Content was chosen to cover ALL the well-annotated genes and transcripts from RefSeq v36 (the NM_ accession type), and, by leveraging all available EST and mRNA evidence that fall into the same clusters, to rigorously detect alternate 3′ ends of those well-annotated genes. In addition, over 1000 probe sets represent transcripts that have no official gene symbol in UniGene, but are based on predicted RefSeq sequences and UniGene clusters with good evidence of actual transcription (i.e., contain full-length mRNA's or multiple EST's that designate the same 3′ end).

The majority of the content (over 43,000 probe sets) directly covers RefSeq "NM_" sequences with 11 probes per set, and the remainder of probe sets contain 9 probes.

The array contains the exact same 100 normalization control probe sets as U133.

Identical to the cartridge array manufacturing process, the oligonucleotide probes on the array plates are synthesized *in situ* using our photolithographic process.

Visit our website for a list of supporting manuals for procedures regarding target preparation, target hybridization, washing, staining, and array plate scanning

Critical specifications

Item	Specifications
Feature size	8 µm
Probes/sequence	9 to 11 Perfect Match Probes
Hybridization controls	bioB, bioC, bioD, cre
Poly-A controls	dap, lys, phe, thr
Normalization controls	100 Probe Sets
Housekeeping/control genes	GAPDH, ß-Actin
Hybridization volume	90 µL
Library files	HG-U219

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.

Reagents, instruments, and software required

1. GeneChip™ 3′ IVT Express Kit
2. GeneChip™ HT Hybridization, Wash, and Stain Kit
3. GeneTitan™ MC Instrument
4. GeneChip™ Command Console™ software

For a complete list of reagents and consumables required, see our website for a list of supporting guides for HT array plates.

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.
Human Genome U219 Array Plate	16-array format 14-array format 96-array format	901605 901604 901595
Related products		
GeneChip™ HT 3' IVT PLUS Reagent Kit	96 reactions	902417
GeneTitan™ Hybridization, Wash, and Stain Kit for 3′ IVT Arrays	96 reactions	901530

Storage, handling, and stability

The array plates should be stored at 2–8°C and must not be frozen. The array plates must be protected at all times from damage or exposure to dust. Refer to the expiration date on the package label. Do not use array plates or reagents after the expiration date.

When handling the 96-plate scan tray

Remove the scan tray from the pouch with gloved hands. The scan tray is packaged with a black plastic base. Do not remove the protective black plastic base from the scan tray or touch the scan tray directly. This protective base should stay with the scan tray at all times prior to loading into the GeneTitan™ MC Instrument.

CAUTION! The scan tray has protruding guiding posts that may be sharp and can stick out of the pouch if not handled carefully; therefore, take precaution to prevent unnecessary injury.

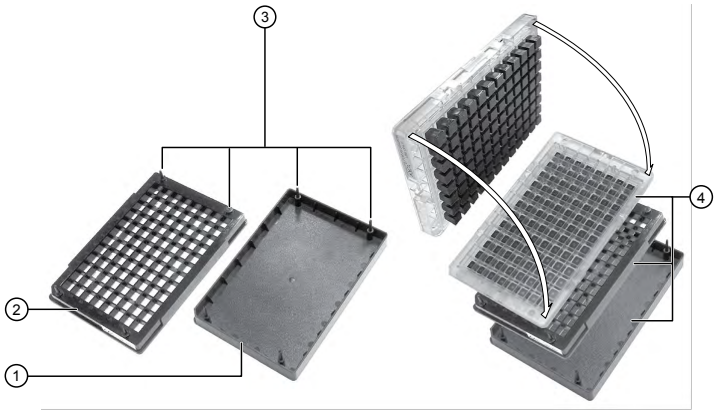

Fig. 1 Scan tray assembly.

① Black plastic base
② Scan tray
③ Alignment pins
④ Array plate, scan tray, and black plastic base assembly

Note: Displayed action is for demonstration purposes only. All movement of the array plate is performed during the fluidics protocol on the GeneTitan™ Instrument.

When handling the 96-array plate

Remove the array plate from the pouch with gloved hands. The array plate is packaged with a blue plastic base. Do not remove the protective blue plastic base from the array plate or touch the array plate directly. Keep the array plate in the protective base all times, including when placed on the GeneTitan™ MC Instrument.

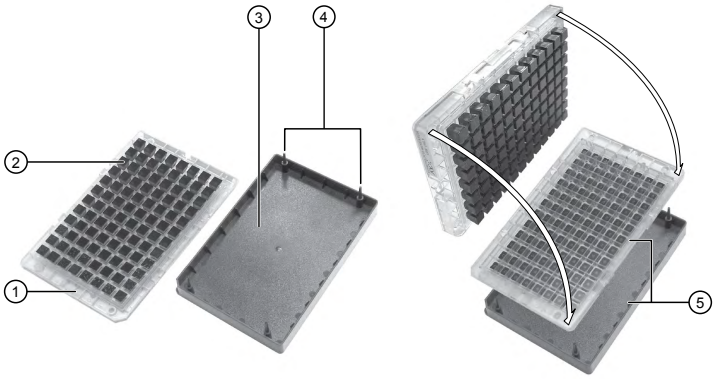

Fig. 2 Array plate assembly.

① Array plate
② Probe array on glass substrate mounted on peg
③ Blue plastic base
④ Alignment pins
⑤ Array plate and blue base assembly

Note: Displayed action is for demonstration purposes only.

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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