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Package Insert

GeneChip™ HT HG-U133 Plus PM Array Plate

Intended Use

The GeneChip™ HT HG-U133+ PM 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. Each plate consists of 16, 24 or 96 microarrays and is offered as a part of the complete automated solution including target preparation, array washing, staining and scanning instrumentations.

Each microarray on the GeneChip™ HT HG-U133+ PM Array Plate contains the same number of probe sets as the industry-standard GeneChip™ Human Genome U133 Plus 2.0 cartridge array. This enables researchers to take a whole genome approach to expression profiling and smoothly scale up to process large numbers of samples.

Two critical design changes were introduced with the GeneChip™ HT HG-U133+ PM Array Plate:

1. Only Perfect Match (PM) probes from the cartridge design were retained while Mismatch (MM) probes were removed.
2. Empirical data were used to select the best-performing probes resulting in reducing the number of PM probes; 42,461 probe sets were reduced from eleven to nine probes and another six probe sets were reduced from eleven to ten; 12,208 probe sets remained unchanged.

Sequences used in the design of the arrays were selected from GenBank™, dbEST, and RefSeq. The majority of sequence clusters were created from the UniGene database (Build 133, 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). An additional set of 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). Sequences were further analyzed for correct orientation, false priming, false clustering, alternative splicing, and alternative polyadenylation.

Identical to the cartridge array manufacturing process, the oligonucleotide probes on GeneChip™ brand HT Array Plates are synthesized *in situ* using the photolithographic process.

GeneChip™ probe arrays and plates are for research use only and not intended for use in diagnosis of disease. Please refer to our web site for a list of supporting manuals for procedures regarding target preparation, target hybridization, washing, staining, and array plate scanning.

Reagents, Instrumentation and Software Required

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

For a complete list of reagents and consumables required, please refer to our web site for a list of supporting manuals for HT Array Plates.

Critical 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*, *beta-Actin*
Hybridization Volume	90 µL

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 type. Additional information can be located under the specific array product on our web site.

Ordering Information

GeneChip™ PM array plate kits include hybridization, scan, and stain trays for use with the GeneTitan™ Instrument. A separate consumables kit (P/N 901561) is available for use with the Beckman™ Biomek FX^P Target Prep Instrument.

P/N	Product Name	Description
901433	GeneChip™ HT U133 Plus PM 16-Array Plate Kit	See Footnote[1]
901261	GeneChip™ HT U133 Plus PM 24-Array Plate Kit	See Footnote[1]
901262	GeneChip™ HT U133 Plus PM 96-Array Plate Kit	See Footnote[1]
901265	GeneChip™ HT U133 Plus PM 96-Array Plate Kit and GeneChip™ HT 3' IVT Express Kit Bundle	96 Rxn[1]
901253	GeneChip™ HT 3' IVT Express Kit	96 Rxn
901225	GeneChip™ HT 3' IVT Express Kit	4 x 24 Rxn
901228	GeneChip™ 3' IVT Express Kit	10 Rxn
901229	GeneChip™ 3' IVT Express Kit	30 Rxn
901530	GeneTitan™ Hybridization, Wash, and Stain Kit for 3' IVT Arrays	96 Rxn
901561	Labware Kit for IVT Express Method on Beckman™ Biomek FX^P Target Prep Instrument2	See Footnote[2]

1. Each Array Plate Kit contains: 1 HT Array Plate, 1 HT Hybridization Tray, 1 HT Scan Tray, 3 HT Stain Trays for the GeneTitan Instrument, and 4 HT Stain Tray Covers for the GeneTitan Instrument.
2. The labware kit contains consumables sufficient for 4x24 or 4x96 rxn runs.

Precautions

1. GENECHIP™ ARRAY PLATES ARE FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.
2. Avoid microbial contamination, which may cause erroneous results.
3. WARNING: All biological specimens and materials with which they come into contact should be handled as if capable of transmitting infection and disposed of with proper precautions in accordance with federal, state, and local regulations. This includes adherence to the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030) for bloodderived and other samples governed by this act. Never pipet by mouth. Avoid specimen contact with skin and mucous membranes.
4. CAUTION: Exercise standard precautions when obtaining, handling, and disposing of potentially carcinogenic reagents.
5. Exercise care to avoid cross-contamination of samples during all steps of this procedure, as this may lead to erroneous results.
6. Use powder-free gloves whenever possible to minimize introduction of powder particles into sample or probe array plates.
7. CAUTION: Use care when handling the Scan Tray as it has protruding guiding posts that may be sharp and can stick out of the pouch if not handled carefully.

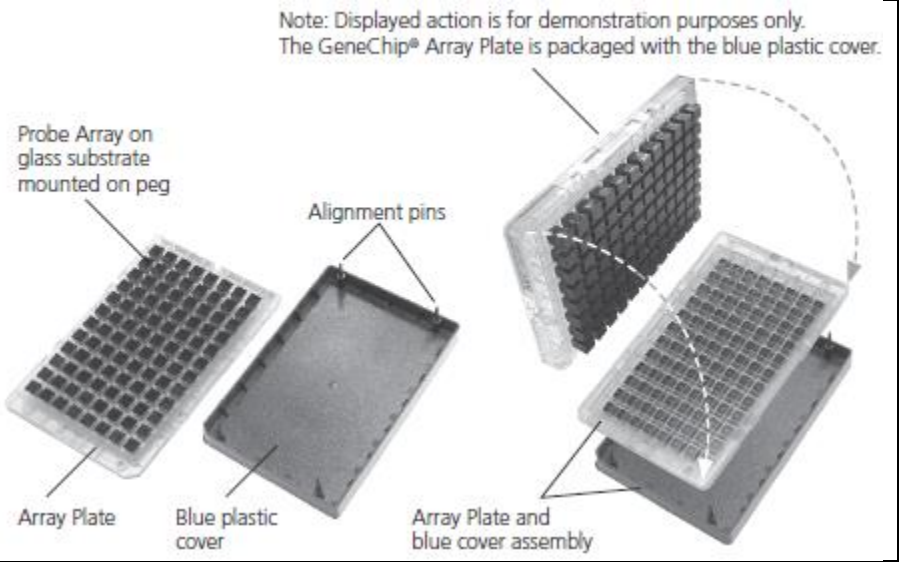
Storage, Handling and Stability

The GeneChip™ array plates should be stored at 2° to 8°C and must not be frozen. Refer to the expiration date on the package label. Do not use probe arrays or reagents after the expiration date.

When Handling the Array Plate

Remove the array plate from the pouch with gloved hands. The array plate is packaged with a blue plastic cover (Figure 1). Do not remove the protective blue plastic cover from the array plate or touch the array plate directly. This protective cover should stay with the array plate at all times prior to being handled by the GeneTitan™ System.

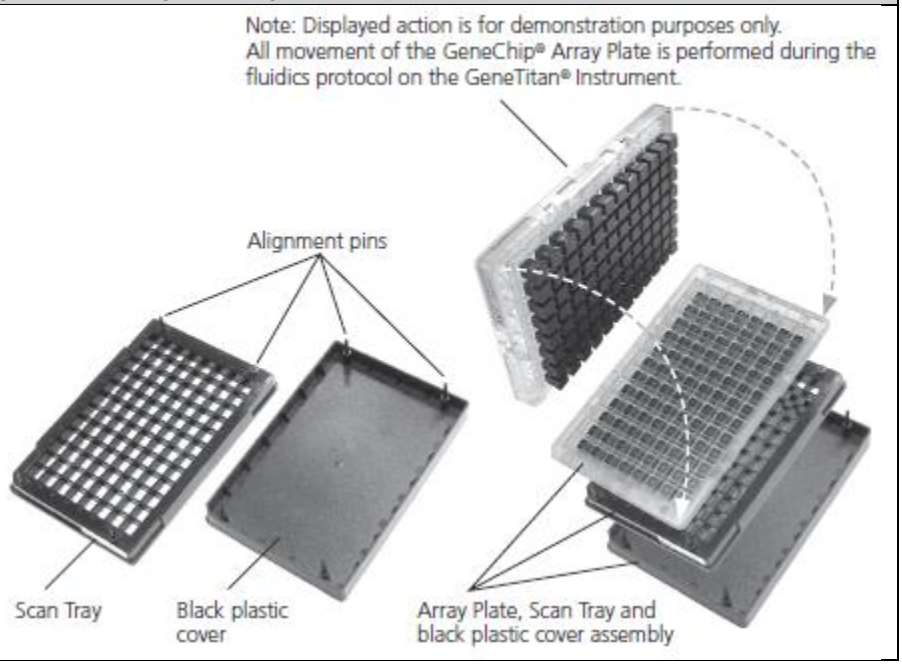
Figure 1. Array Plate Assembly



When Handling the HT Scan Tray

Remove the scan tray from the pouch with gloved hands. The scan tray is packaged with a black plastic cover (Figure 2). Do not remove the protective black plastic cover from the scan tray or touch the scan tray directly. This protective cover should stay with the scan tray at all times prior to loading into the GeneTitan™ System. In addition, 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.

Figure 2. Scan Tray Assembly



Documentation and support

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
- 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 **thermofisher.com/support**.

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