



Data Sheet

GeneChip® 3' IVT Express Kit and GeneChip® HT 3' IVT Express Kit

Manufactured for Affymetrix, Inc. by Ambion, Inc.

Target prep is easy with low RNA inputs and a streamlined workflow

The GeneChip® 3' IVT Express Kit and the GeneChip® HT 3' IVT Express Kit are the latest technology in RNA target preparation for microarray experiments. The kits feature:

- Low RNA input requirements – as little as 50 ng total RNA for a single round of amplification
- Streamlined workflow – no initial primer annealing or cDNA purification step, and a 1.25-hour second-strand cDNA synthesis time
- The option to decrease target labeling time to a single day with appropriate inputs of total RNA
- Fewer reagents needed for entire amplification and labeling process
- A simple protocol for ease of use, convenience and a high rate of success
- Magnetic bead purification for enhanced recovery
- A complete kit that includes poly-A RNA and hybridization controls

INTRODUCTION

GeneChip® 3' IVT and HT 3' IVT Express Kits are the latest and most effective option for target prep on Affymetrix industry-standard 3' expression arrays. GeneChip Express Kits enable expression profiling using streamlined protocols with as little as 50 ng starting material, allowing you to get the answers you need quickly and efficiently. With enhanced performance, fewer reagents and a simple protocol, target prep has never been so easy.

The reagents are offered in four configurations, so you can choose the product that best meets your research needs.

Manual solutions:

- 10-reaction size, alone or bundled with select 3' arrays
- 30-reaction size, alone or bundled with select 3' arrays

Automated solutions:

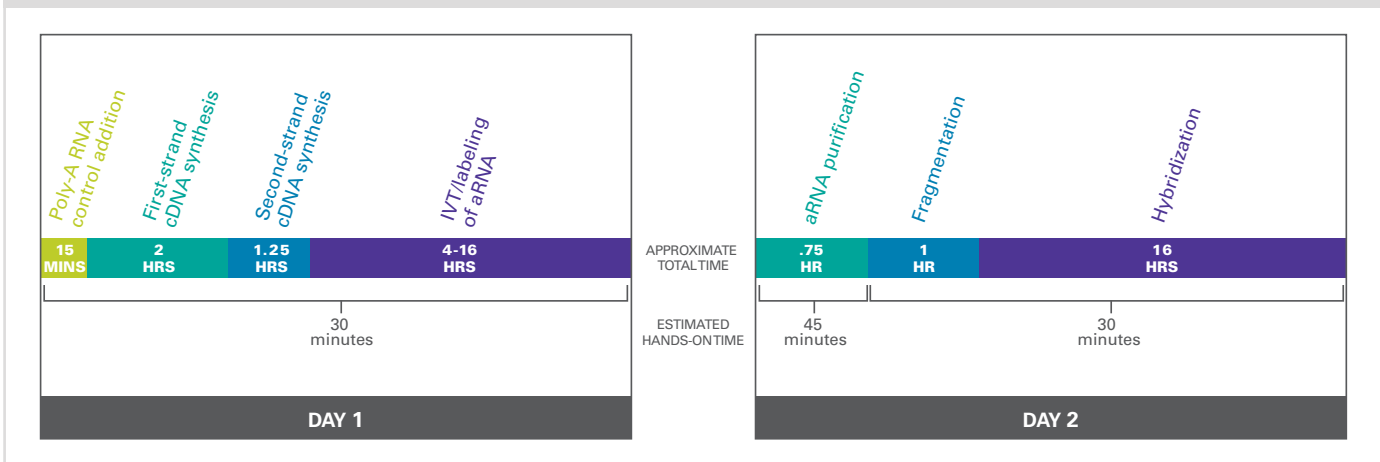
- 96-reaction size, alone or bundled with HT PM 96-Array Plates
- 4 x 24-reaction size

TARGET LABELING ASSAY MADE SIMPLE

GeneChip Express Kits make target prep simple. The assay allows you to start with as little as 50 ng of total RNA to generate targets compatible with Affymetrix 3' arrays and plates. The reaction utilizes linear RNA amplification to yield biotinylated targets from the 3' end and uses ArrayScript™ reverse transcription to synthesize cDNA. In the current assay, cleanup is not needed after reverse transcription. RNA is generated using MEGAscript® *in vitro* transcription technology and is purified using magnetic beads, resulting in high recovery yields.



Table 1: Target prep can be completed in 9.5 to 21.5 hours using the 3' IVT Express Kit, with approximately 2.5 hours of hands-on time.



CONTROL REAGENTS INCLUDED

GeneChip 3' IVT and HT 3' IVT Express Kits include everything you need to ensure a successful reaction:

- Poly-A controls (*lys*, *pbe*, *thr* and *dap*) monitor the target labeling process from start to finish. They serve as sensitivity indicators of target prep and labeling efficiency.
- The 20X Eukaryotic Hybridization Controls are comprised of a mixture of biotinylated and fragmented cRNA of *bioB*, *bioC*, *bioD* and *cre*. The controls monitor the hybridization, washing and staining steps. Control Oligo B2 is included to provide alignment signals for image analysis.

GeneChip 3' IVT Express Kit

The GeneChip 3' IVT Express Kit is the latest technology in RNA target preparation for manually prepared samples. Key benefits include:

- Two convenient configurations—10- and 30-reaction sizes
- Plastic consumables needed to run the assay offered alone or in bundles with these popular 3' arrays:
 - GeneChip® Human Genome U133 Plus 2.0 Arrays (10 and 30 packs)
 - GeneChip® Mouse Genome 430 2.0 Arrays (10 and 30 packs)
 - GeneChip® Rat Genome 230 2.0 Arrays (10 and 30 packs)

- The ability to generate target from as little as 50 ng total RNA (one round of amplification)
- Streamlined workflow with the option to decrease target labeling time to a single day with appropriate inputs of total RNA
- Master mixes and simplified protocol
- Poly-A RNA and hybridization controls

To run the complete Affymetrix solution, you will also need the GeneChip® Hybridization, Wash and Stain Ki.

GeneChip HT 3' IVT Express Kit

The GeneChip HT 3' IVT Express Kit is the latest technology for high-throughput automation users. Key benefits include:

- Two convenient configurations—96- and 4 x 24-reaction sizes
 - 4 x 24-reaction format, with sufficient reagents for four separate runs of 24 samples each
 - 96-reaction format, with sufficient reagents for a single run of 96 samples
- Offered alone or in bundles with certain HT PM expression array plates:
 - GeneChip® HT Human Genome U133+ PM 96-Array Plate
 - GeneChip® HT Mouse Genome 430 PM 96-Array Plate
 - GeneChip® HT Rat Genome 230 PM 96-Array Plate
- Ability to generate target from as little

Figure 1: HeLa aRNA yield by input amount.

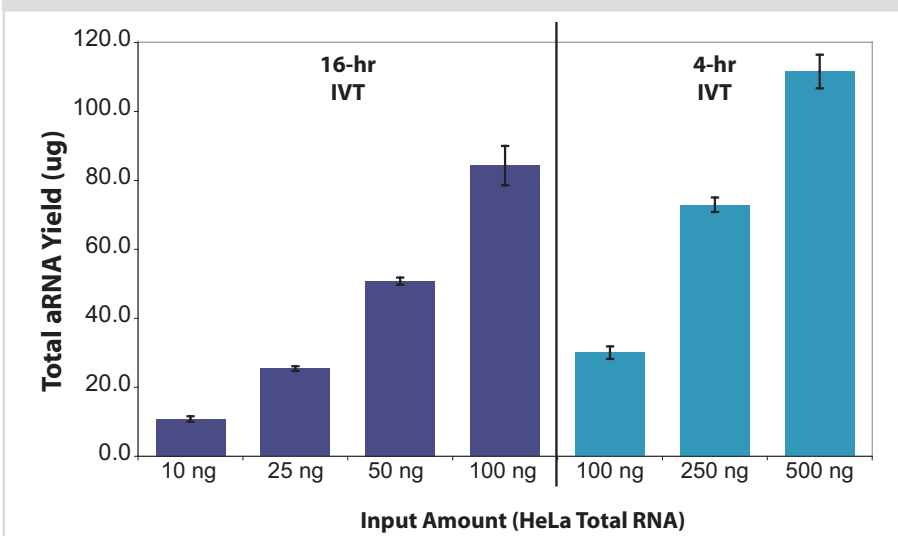
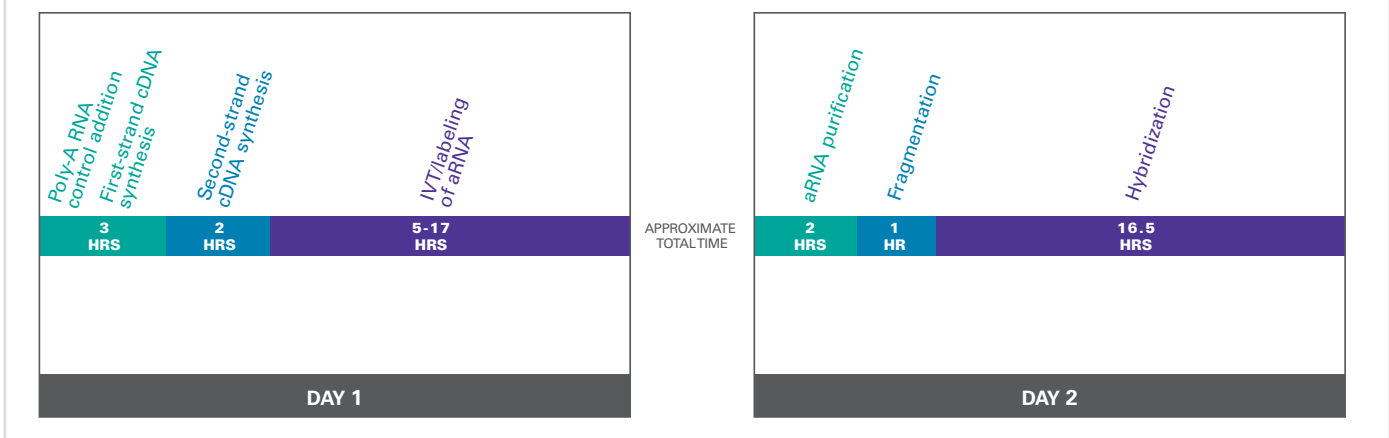


Table 2: Target prep through to hyb-ready sample can be completed on the GCAS in 13.5 to 25.5 hours using the HT 3' IVT Express Kit, with minimal user intervention.



as 50 ng total RNA (one round of amplification)

- Streamlined workflow with option to decrease target labeling time with appropriate inputs of total RNA
- Master mixes and simplified protocol
- Includes poly-A RNA and hybridization controls

Scripts for the assay are specific to the

GeneChip® Array Station (GCAS) and are supported by Affymetrix. Please visit www.affymetrix.com to learn more about other automation providers. The plastic consumables needed for target preparation on GCAS are sold separately by Affymetrix. Please visit our website for information on the Affymetrix GCAS Accessory Kit for Target Prep. Additional products needed to run the complete Affymetrix solution include the GeneChip® HT

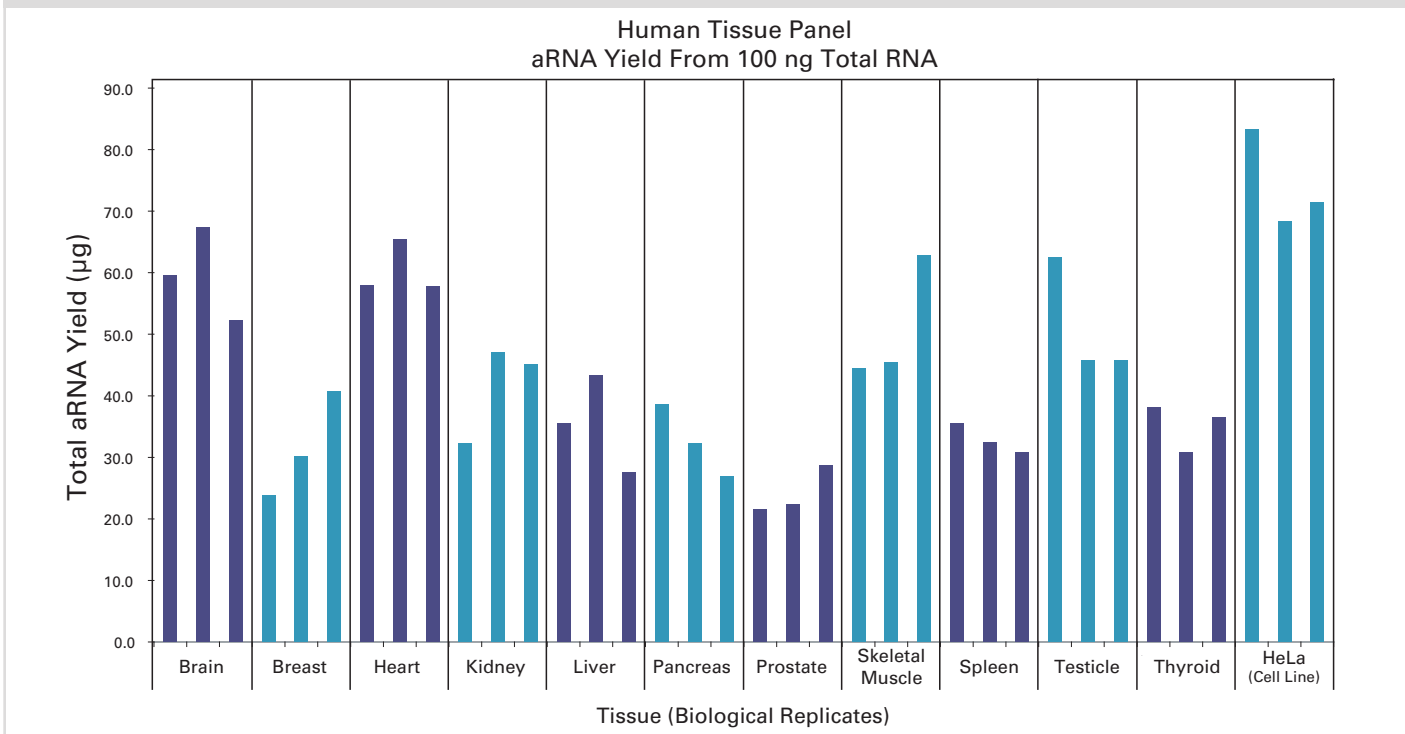
Hybridization, Wash and Stain Kit.

ADDITIONAL ASSAY INFORMATION

For additional information on the GeneChip 3' IVT Express assay, please refer to the following manuals on www.affymetrix.com:

- GeneChip® 3' IVT Express Kit User Manual
- GeneChip® HT 3' IVT Express Kit User Manual

Figure 2: aRNA yield from 100 ng Total RNA across various human tissue types (16-hour IVT).



Ordering Information

Manually Prepared Solutions		
Product Name	Size	Part Number
GeneChip® 3' IVT Express Kit	10 reactions	901228
GeneChip® 3' IVT Express Kit	30 reactions	901229
GeneChip® Human Genome U133 Plus 2.0 Array and 3' IVT Express Kit Bundle	10 reactions	901226
GeneChip® Human Genome U133 Plus 2.0 Array and 3' IVT Express Kit Bundle	30 reactions	901227
GeneChip® Mouse Genome 430 2.0 Array and 3' IVT Express Kit Bundle	10 reactions	901230
GeneChip® Mouse Genome 430 2.0 Array and 3' IVT Express Kit Bundle	30 reactions	901231
GeneChip® Rat Genome 230 2.0 Array and 3' IVT Express Kit Bundle	10 reactions	901232
GeneChip® Rat Genome 230 2.0 Array and 3' IVT Express Kit Bundle	30 reactions	901233
GeneChip® Hybridization, Wash and Stain Kit	30 reactions	900720

Automated Solutions		
Product Name	Size	Part Number
GeneChip® HT 3' IVT Express Kit	96 reactions	901253
GeneChip® HT 3' IVT Express Kit	4 x 24 reactions	901225
GeneChip® HT HG-U133+ PM 96-Array Plate and HT 3' IVT Express Kit Bundle	96 reactions	901265
GeneChip® HT MG-430 PM 96-Array Plate and HT 3' IVT Express Kit Bundle	96 reactions	901266
GeneChip® HT RG-230 PM 96-Array Plate and HT 3' IVT Express Kit Bundle	96 reactions	901264
GeneChip® Hybridization, Wash and Stain Kit	30 reactions	900720
GeneChip® HT Hybridization, Wash and Stain Kit	96 reactions	901219
Affymetrix® GCAS Accessory Kit for Target Prep	4 runs	901235

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