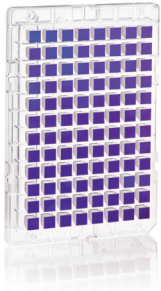
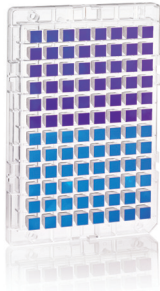


Axiom™ myDesign™ Genome-Wide Array Plates



1 x 96 configuration

- Supports Axiom myDesign TG and GW Arrays
- 1,500 to 675K markers per sample
- 96 samples per plate



2 x 48 configuration

- Supports Axiom myDesign GW Arrays
- ~1.3M markers per sample
- 48 samples per plate



3 x 32 configuration

- Supports Axiom myDesign GW Arrays
- ~2M markers per sample
- 32 samples per plate



4 x 24 configuration

- Supports Axiom myDesign GW Arrays
- ~2.6M markers per sample
- 24 samples per plate

Axiom™ myDesign™ Genome-Wide (GW) Array Plates are fully customizable, high-density array plates that can be optimized with the most relevant markers for your disease association and SNP validation studies.

Axiom myDesign GW Array Plates enable you to:

- Easily select relevant SNPs from our database of 11 million validated common and rare variants
- Create panels of 500,000 to 2.6 million markers per sample
- Generate rapid, robust results
- Conduct genome-wide association studies (GWAS) and candidate gene studies on the same platform
- Receive your array more quickly than any custom array on the market

Introduction

Axiom myDesign GW Array Plates are innovative tools designed specifically for genome-wide association, replication, fine mapping, and candidate gene association studies.

Based on the universal workflow of the Axiom Genotyping Solution, Axiom myDesign GW Array Plates offer unprecedented flexibility and the confidence of validated genomic content for designing an optimal study for your population.

Axiom myDesign GW Array Plates provide:

- **Unmatched scalability** – Create fully or semi-customized panels containing 500,000 to 2.6 million markers using validated content from Affymetrix, or submit novel target sequence from other sources. The industry-leading scalability provides more options to maximize genetic coverage across the genome or within specific gene regions.
- **The most comprehensive content** – Design custom arrays using the Axiom Genomic Database, the world's largest

database of validated genomic content from the human genome spanning four major populations (CEU, JPT, CHB, and YRI). The database contains more than 11 million rare and common variants from sources such as the International HapMap Project, the 1000 Genomes Project, the NHGRI Database of Published Associations, and other initiatives.

- **Uniquely relevant markers** – Choose the most relevant markers based on population, linkage disequilibrium (LD, measured by r^2), and minor allele frequency (MAF) to maximize statistical power for the study. Genomic markers are further classified by SNP type, biological process or previous GWAS disease association.
- **Accelerated discovery** – Process more than 750 samples per week using the fully automated workflow based on the Axiom™ 2.0 Reagent Kit and the GeneTitan® Multi-Channel Instrument.
- **Superior results** – Each variant has been extensively validated in a large number of biological samples to ensure that the SNP is not due to sequencing error, the minor allele can be reliably detected, and has undergone rigorous functional testing to ensure highly reliable and reproducible performance. Data quality was assessed against the HapMap 270 diversity panel to confirm call rate, sample pass rate, concordance, and reproducibility.

Easy to select, easy to design

Designing an Axiom myDesign GW Array Plate is easy. Register online at www.affymetrix.com/mydesign to access the Axiom Design Center, your gateway to SNP selection and array design using the Axiom Genomic Database.

All design requests are submitted online and the Affymetrix Bioinformatics Services team will help you create your custom Axiom panel. You can submit gene, region, sequence, or probe ID. The design and ordering process is outlined in detail in the *Axiom™ myDesign™ Array Plate Design Guide*, available at www.affymetrix.com.

Table 1: Markers in the Axiom™ Genomic Database (millions).

Total polymorphic markers by population		Total markers by population	Total no. of markers by MAF	No. of validated markers	No. of taggable markers with $r^2 > 0.8$
CEU	Rare ($0 < \text{MAF} < 5\%$)	6.11	1.67	1.46	0.21
	Common ($\text{MAF} \geq 5\%$)		4.44	3.26	1.18
JPT + CHB	Rare ($0 < \text{MAF} < 5\%$)	5.63	1.61	1.44	0.17
	Common ($\text{MAF} \geq 5\%$)		4.02	2.98	1.04
YRI	Rare ($0 < \text{MAF} < 5\%$)	8.71	2.73	2.43	0.3
	Common ($\text{MAF} \geq 5\%$)		5.99	4.7	1.29
Total			11.0	8.8	2.2

Table 2: Validated markers by biological category.

Marker category	No. of validated markers
By marker type	
Coding SNPs (cSNPs)	88,922
Synonymous cSNPs	43,860
Non-synonymous cSNPs	52,251
Splicing and untranslated regions (UTR)	111,001
Genic	3,991,806
miRNA/mtDNA	405
Chromosome X/chromosome Y	249,608/2,647
Insertions/deletions (in/dels)	34,708
By biological process and disease	
Major histocompatibility complex (MHC)	22,148
Drug metabolizing genes/ADMET	50,455
Inflammation and immunity pathway	57,922
Cardiovascular	68,479
NHGRI disease-associated	3,299

Table 3: Markers by commercially available panel.

Panel	No. of validated markers
Axiom™ Genome-Wide ASI Array Plate	600,307
Axiom™ Genome-Wide CEU Array Plate	587,352
Affymetrix® Genome-Wide Human SNP Array 5.0	384,766
Affymetrix® Genome-Wide Human SNP Array 6.0	769,824
Illumina Infinium Human660W-Quad BeadChip	470,852
Illumina Infinium Human1M-Duo BeadChip	811,252
Illumina HumanOmniExpress BeadChip	586,993
Illumina HumanOmni1 BeadChip	779,796

Ordering information

Part number	Description	Details
Axiom™ myDesign™ Genome Wide Array Plates		
000780	Axiom™ myDesign™ GW Array Plate, 675K	Includes one 96-array plate in 1x96 configuration; each sample contains 500,000 to 675,000 markers
000786	Axiom™ myDesign™ GW Array Plate, 1.3M	Includes one 96-array plate of two array types, 2x48 configuration; each sample contains up to 1.3 million markers
000794	Axiom™ myDesign™ GW Array Plate, 2.0M	Includes one 96-array plate of three array types, 3x32 configuration; each sample contains up to 2.0 million markers
000787	Axiom™ myDesign™ GW Array Plate, 2.6M	Includes one 96-array plate of four array types, 4x24 configuration; each sample contains up to 2.6 million markers
Axiom™ Reagent Kits		
901758	Axiom™ 2.0 Reagent Kit	Includes all reagents (except isopropanol) to process 96 gDNA samples
901606	GeneTitan® Consumables Kit	Includes GeneTitan plastic consumables to process one 96-array plate
Axiom™ Services		
0000740	Axiom™ Genotyping Services	Sample processing and data generation services for gDNA samples (minimum 1,000 samples) using the Axiom Genotyping Solution

*Reagent kits do not include Beckman plastic consumables required to run the assay on the Beckman Biomek® FX® Target Prep Express System.

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