Workflow solution selector

Human genetics with the Axiom® Genotyping Solution

The Axiom® Genotyping Solution is an innovative genotyping technology platform that enables optimized human genetics workflows through flexible array choices, a robust assay, and hands-free, automated array processing on the GeneTitan® Multi-Channel Instrument.

Affymetrix® Revolutionize life

	Novel variants	Population genetics	Susceptibility loci				Causal genes and variants
	Validation and haplotype mapping	Ancestry and evolution	GWAS, replication, and fine-mapping				Association and confirmation
			European ancestry	African ancestry	Asian ancestry	Admixed/ Latin ancestry	
Pre-designed by us	Rapid and cost-effective alternative to sequencing to create a haplotype map in your population sample **Axiom® Genomic Screening Service** *MAF ≥0.01* 5.4 million SNPs and indels	The only array designed by optimized SNP selection for unbiased population and evolutionary genetics **Axiom® Human Origins 1 Array** ~629,000 SNPs from diverse modern human populations and ancient hominids	Coverage-Optimized World Arrays: next-generation designs combining GWAS, replication, and fine-mapping into one array. Dense marker coverage of disease-associated SNPs, genes, and regions, plus high whole-genome coverage of common and rare variants. **Axiom® EUR 1 Array** *MAF ≥0.01* *European genomes*	**Axiom® AFR 1 Array** *MAF ≥0.01* *African-American genomes (African with European admix)*	**Axiom® EAS 1 Array** *MAF ≥0.01* *East Asian genomes*	**Axiom® LAT 1 Array** *MAF ≥0.01* *European-African-Native American genomes*	The most complete exome genotyping array to screen functional variants for disease relevance **Axiom® Exome 319 Array** *MAF >0.005* >300,000 rare exonic variants >35,000 simple and complex indels
			Population-optimized arrays with high genome-wide coverage of common and rare variants. Maximum discovery power with optimal cost-efficiency using highly informative markers selected by screening population samples. **Axiom® CEU 1 Array** *MAF ≥0.02* *CEU reference genome*	**Axiom® Pan-African Array Set** *MAF ≥0.02* *African genomes including YRI, LWK, MKK, ASW*	**Axiom® ASI 1 Array** *MAF ≥0.02* *Consensus CHB/JPT genome* **Axiom® CHB 1 Array** *MAF ≥0.05* **Axiom® CHB 2 Array** *MAF 0.05–0.02* *Han Chinese genome*		The most complete exome genotyping array plus the most flexible choice to add your own SNPs and indels **Axiom® Exome Plus Array** *MAF >0.005* Add your choice of up to 100,000 SNPs and indels
Content chosen by you	Cost-effective and robust variant screening to eliminate false positives and create robust haplotype maps **Axiom® myDesign™** Choose to add from 1,500 up to 2.6 million SNPs and indels to your screening array		The most flexible access to your choice of cost-effective genotyping array content with high SNP conversion and no batch-to-batch SNP drop-out for the best data consistency available. Our bioinformatics specialists work with you to design the array you need using SNPs and indels from our Axiom® Genomic Database or from your own NGS discovery studies. **Axiom® myDesign™ Genome-Wide Arrays** For as few as 480 samples, choose from 500,000 to 2.6 million SNPs and indels to create your own genome-wide array for GWAS or replication studies		**Axiom® myDesign™ Targeted Genotyping Arrays** For as few as 480 samples, choose from 1,500 to 500,000 SNPs and indels to create your own targeted array		Combine validation and genotyping of candidate causal variants from your targeted NGS studies **Axiom® myDesign™ Targeted Genotyping Arrays** For as few as 480 samples, choose from 1,500 to 500,000 SNPs and indels for your own targeted array

What is the Axiom Genomic Database?

The Axiom Genomic Database (AGD) is the world's largest resource of >11M genotype-tested and fully-annotated SNPs and indels. It is freely available to investigators developing Axiom myDesign Arrays and overcomes three significant challenges:

1. **AGD has eliminated false positive SNPs from low-coverage NGS data**
   AGD contains only confirmed SNPs and indels. We genotype-tested millions of SNPs from initiatives such as the 1000 Genomes Project, to remove the sequencing errors common in low coverage NGS data.
2. **No loss of SNPs due to assay incompatibility**
   AGD markers have ~100% success rate on Axiom myDesign Arrays because our genotype-testing program, in at least 270 reference samples, proves each marker works robustly with the Axiom® Assay.
3. **Easy to define and build an Axiom myDesign Array SNP list:**
   AGD markers are fully-annotated from more than 11 online sources for easy SNP selection, saving hours of web searching to collate your SNP list. Our bioinformatic specialists work with you to develop your Axiom myDesign Array using our online Axiom Design Center for simple designs or additional in-house expertise for complex designs.