



Agrigenomics solutions for companion animals

Choose from innovative technologies to analyze canine, equine, feline, and rabbit genomes

From predesigned and validated content to custom solutions, flexible technologies offered by Thermo Fisher Scientific are designed to help accelerate your unique breeding and testing programs.

Microarrays

Applied Biosystems™ Axiom™ Canine Genotyping Array sets A and B were designed in collaboration with the Canine Consortium. These arrays offer access to approximately

1.1 million markers that were discovered by the National Human Genome Research Institute of the National Institutes of Health. The content, distributed over two arrays, offers dense genotyping for validation and discovery of variants associated with specific phenotypes. All of the new content was discovered through high-quality sequencing of over 300 dog genomes. In addition, we offer an Applied Biosystems™ Axiom™ Canine High-Density Array that contains more than 712,000 markers, featuring highly polymorphic SNP content and providing uniform genomic coverage across a diverse set of canine breeds.

The novel Applied Biosystems™ Axiom™ Equine Genotyping Array supports a wide range of genotyping applications for equine research, and is the only array that can be used for genotyping 20 different breeds. It includes markers that were selected to

maximize accuracy of imputation, with up to 1.8 million markers both within and across 20 breeds. An emphasis was placed on breeds with high commercial relevance.

Ordering information

Product	No. of SNPs	Quantity	Cat. No.
Canine			
Axiom Canine High-Density (HD) Array	>712,000	1 plate containing 96 arrays	550869
Axiom Canine Genotyping Array Set A	>460,000	1 plate containing 96 arrays	550771
Axiom Canine Genotyping Array Set B	670,000	1 plate containing 96 arrays	550772
Equine			
Axiom Equine Genotyping Array	670,796	1 plate containing 96 arrays	550583
Axiom Equine Plus Genotyping Array	670,800	1 plate containing 96 arrays	550624
Rabbit			
Axiom Rabbit Genotyping Array	200,000	1 plate containing 96 arrays	550669

AgriSeq targeted GBS solutions

The Applied Biosystems™ AgriSeq™ targeted genotyping-by-sequencing (GBS) solution allows for high-throughput analysis of plant and animal genotypes in a flexible and cost-effective manner. Capable of generating up to 2.6 million genotypes a day from high-quality next-generation sequencing data at pennies per data point, AgriSeq targeted GBS is the future of technology to help advance your plant and animal research. Leveraging a highly efficient multiplexed chemistry, hundreds to thousands of genetic loci can be simultaneously targeted and efficiently amplified in a single reaction. Then, libraries can be processed for next-generation sequencing, where hundreds of samples can be barcoded and sequenced in the same run. Customized panels can be professionally designed to target your relevant markers, offering:

- Consistent performance across samples with high marker call rates
- Fast workflow for cost-effective high-throughput genotyping

The Applied Biosystems™ AgriSeq™ Canine Traits and Disorders Panel includes 153 markers (SNPs, MNPs, and indels) targeting clinically important traits and disorders. Most of these markers

are common to all breeds, while some are breed-specific for certain traits and conditions. The Applied Biosystems™ AgriSeq™ Canine SNP Parentage and Identification Panel includes 394 markers (392 SNPs and 2 indels) for parentage and individual identification. These two canine panels can be combined and run as a single panel of 547 markers when desired, and additional custom markers referencing the CanFam 3.1 genome assembly can be added if compatible.

The Applied Biosystems™ AgriSeq™ Feline Parentage and ID Plus Traits and Disorders Panel is a combination panel targeting clinically important traits and disorders (64 SNP, MNP, and indel markers) plus parentage and identification (111 SNP markers). When desired, additional custom markers referencing the Felis_catus_8.0 genome assembly can be added if compatible.

The Applied Biosystems™ AgriSeq™ Custom Equine Parentage and ID Plus Traits and Disorders Panel is a combination panel with 605 markers, including 151 ISAG pilot markers, an additional 411 for parentage and identification, and 53 markers for clinically important common traits and disorders.

Ordering information

Product	Quantity	Cat. No.
Library kits		
Applied Biosystems AgriSeq HTS Library Kit	9,600 reactions	A34143
	960 reactions	A34144
Ion Torrent™ barcode adapters		
IonCode barcode adapters 1–384 Kit (for Agrigenomics)	3,840 reactions	A31173
IonCode barcode adapters, 385–768	3,840 reactions	A36546
IonCode barcode adapters, 769–1,152	3,840 reactions	A44599
IonCode barcode adapters, 1,153–1,536	3,840 reactions	A44603
IonCode barcode adapters, 0501–0596	3,840 reactions	A36524
IonCode barcode adapters, 0601–0696	3,840 reactions	A36525
IonCode barcode adapters, 0701–0796	3,840 reactions	A36526
IonCode barcode adapters, 0801–0896	3,840 reactions	A36527
Targeted GBS solution, canine		
AgriSeq Canine Traits and Disorders Panel (153 markers)	960 reactions	A43406
AgriSeq Canine SNP Parentage and ID Panel (394 markers: 392 SNPS and 2 indels)	960 reactions	A43407
Targeted GBS solution, feline		
AgriSeq Feline Parentage and ID Plus Traits and Disorders Panel (64 markers for TD, 111 markers for PI)	960 reactions	A43408
Targeted GBS solution, equine		
AgriSeq Custom Equine Parentage and ID Plus Traits and Disorders Panel (53 markers for TD, 411 markers for PI)	960 reactions	A50141

STR parentage kits

Employing short tandem repeats (STRs), our canine and equine STR genotyping kits offer a complete solution for animal parentage typing and genotyping. STRs, also referred to as microsatellites, are highly polymorphic markers evenly distributed across a genome.

Compatible with Applied Biosystems™ genetic analyzers, these genotyping kits incorporate a proprietary PCR process that uses fluorescently labeled primers to assist with the amplification of microsatellite markers.

Ordering information

Product	No. of markers	Quantity	Cat. No.
Thermo Scientific canine kits			
Canine Genotypes Panel 1.1 Kit	19	100 reactions	F860S
Canine Genotypes Panel 2.1 Kit	19	100 reactions	F864S
Applied Biosystems canine kit			
StockMarks™ for Dogs Genotyping Kit	10	100 reactions	4307481
Thermo Scientific equine kits			
Equine Genotypes Panel 1.1 Kit	17	500 reactions	F850L
	17	100 reactions	F850S
Applied Biosystems equine kit			
StockMarks™ for Horses 17-Plex Genotyping Kit	17	100 reactions	4336405

Custom TaqMan SNP Genotyping Assays

These assays provide a highly flexible technology for the detection of polymorphisms within any genome. Create your own assays by submitting target sequences to our secure assay design pipeline using the Applied Biosystems™ Custom TaqMan® Assay Design Tool. Our design pipeline has successfully generated millions of assay designs utilizing heuristic

rules deduced from both manufacturing and assay performance data. Applied Biosystems™ TaqMan® Assays can be run on any of our real-time PCR instruments using the highly robust chemistry of Applied Biosystems™ TaqPath™ ProAmp™ Master Mix, and a simple 5-minute sample prep lysis step using the Applied Biosystems™ DNA Extract All Reagents Kit.

Ordering information

Product	Quantity	Cat. No.
Custom TaqMan SNP Genotyping Assay, non-human, large	2,400 (5 µL) reactions	4332076
Custom TaqMan SNP Genotyping Assay, non-human, medium	1,000 (5 µL) reactions	4332075
Custom TaqMan SNP Genotyping Assay, non-human, small	300 (5 µL) reactions	4332077
TaqPath ProAmp Master Mix	1 x 50 mL	A30867
	2 x 50 mL	A30872
	2 x 10 mL	A30871
	1 x 10 mL	A30866
	1 x 1 mL	A30865
DNA Extract All Reagents Kit	200 mL	4402599
	1 mL	4403311
TaqMan GTXpress Master Mix	10 mL	4401892
	50 mL	4401890
	2 x 50 mL	4401857

Find out more at thermofisher.com/agrigenomics

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