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Agrigenomics Commercial, Collaborative, and Consortia Infinium® Arrays

Commercial Products

Species	Array Name	No. of Markers	Add on Available	Description	Link to Data Sheet	Min. Sample Req.
Cow	BovineLD	7.9K	80K	An accurate genotyping array to understand the impact of genetics on milk production, reproduction, health, and more. It features ~8000 evenly spaced single nucleotide polymorphism (SNP) probes across the entire bovine genome with higher denisty at chromosomal ends for increased imputation efficiency.	Data Sheet	48
Cow	Bovine SNP50v2	55K	30K	A high-throughput, cost-effective genetic screening array for beef and dairy cattle. It features > 50,000 evenly spaced SNP probes for genome-wide enabled selection, identification of quantitative trait loci (QTL), evaluation of genetic merit of individuals, and comparative genetic studies.	Data Sheet	48
Cow	BovineHD	777K	N/A	A comprehensive genome-wide bovine genotyping array that provides superior power to interrogate genetic variation across any breed of beef and dairy cattle. It features > 777,000 evenly spaced SNP probes across the entire bovine genome.	Data Sheet	48
Dog	CanineHD	170K	N/A	A genotyping array that enables the interrogation of genetic variation in any domestic dog breed for robust within-breed association and copy number variation (CNV) studies. It features > 170,000 evenly spaced SNP probes across the entire canine genome.	Data Sheet	48
Corn	MaizeSNP50	50K	N/A	An array with highly polymorphic SNP content subjected to rigorous functional testing across > 30 diverse maize lines. It features > 50,000 evenly spaced SNP probes across the maize genome for comprehensive genetic mapping.	Data Sheet	48
Corn	MaizeLD	3K	70K	A cost-effective array with scalable content for essentially derived varieties (EDV) assessment. It features 3047 evenly spaced SNP probes, selected based on a comparison of pairwise distance data for maize inbred lines generated using SNP markers from the Maize SNP50 array and SSR markers previously shown to discern EDV status.	Data Sheet	48
Pig	Porcine SNP60	65K	25K	A comprehensive genome-wide genotyping array for the porcine genome. It features > 64,000 evenly space SNP probes enabling interrogation of genetic variation in multiple porcine breeds for whole-genome association studies, determination of genetic merit, identification of QTL, and comparative genetic studies.	Data Sheet	48
Sheep	Ovine SNP50	54K	54K	A comprehensive genome-wide genotyping array for the ovine genome. It features > 54,000 evenly spaced SNP probes enabling identification of QTL, evaluation of genetic merit, cross-breed mapping, linkage disequilibrium studies, comparative genetic studies, and breed characterization for evaluating biodiversity.	Data Sheet	48

a. Number of samples that can be processed using the smallest kit configuration.

GeneSeek Arrays

Species	Array Name	No. of Markers	Add on Available	Description	Link to Data Sheet	Min. Sample Req.
Bos indicus	GGP Bos Indicus HD	74K	N/A	A GeneSeek Genomic Profiler (GGP) array designed for parentage, disease, and trait-improvement applications. It features > 74,000 SNP probes selected from a large database of influential Nellore sires and a global collection of Brahman, Gir, and Girolando samples. Average spacing: ~35 kb.	Data Sheet	288
Bos taurus and *Bos indicus*	GGP Bovine LD (v3)	26K	N/A	A GGP array developed for imputation accuracy to higher density arrays, both ILMN catalog and GGP. Add-on content includes key diagnostic SNPs plus performance trait SNPs chosen for their expected or demonstrated impact on function. Overlap to the GGP Bovine uHD is essentially 100% and it makes an excellent low- to mid-density solution for genetic selection programs. Average spacing: 97 kb.	Data Sheet	288
Bos taurus	GGP Bovine 150K	134K	N/A	A comprehesnive GGP array for genome-wide selection, evaluation of genetic merit, and comparative genetic studies across beef and diary cattle breeds. It features diagnostic, International Society for Animal Genetics (ISAG) parentage, and ILMN Bovine LD, SNP50, HD SNP probes. Average spacing: ~19 kb with a high concentration on chromosomal ends for increased imputation efficiency.	Data Sheet	288
Pig	GGP Porcine HD	70K	N/A	A GGP array built from the ILMN PorcineSNP60 with additional SNPs provided by Univ. of Wageningen. SNPs were selected for prediction accuracy in all the most influential pig breeding schemes globally. Add-on content includes several key diagnostic SNPs for marker-assisted selection. ~20 important causative mutations included. Average spacing: 42 kb.	Data Sheet	288
Pig	GGP Porcine LD	10K	N/A	A GGP array designed and developed for imputation accuracy to higher density arrays including the ILMN Porcine60k and GGP Porcine HD. Add-on content includes key diagnostic SNPs for marker-assisted selection and causative SNPs. Average spacing: 250 kb.	Data Sheet	288
Horse	GGP Equine	65K	N/A	Developed with the Equine SNP chip consortium, the GGP Equine array is a comprehensive solution for genome-wide genotyping and Equine research studies. SNP spacing, minor allele frequency, and call rate have been repeatedly demonstrated as excellent for horse research and selection studies. Average spacing: ~35 kb.	Data Sheet	288
Mouse	GIGA_MUGA	140K	N/A	A cost-effective array for many genotyping applications. The MegaMUGA design criteria make it optimal for detecting heterozygous regions and discriminating between haplotypes in homozygous regions. SNPs were selected to be informative in most mouse populations, including wild mice and multiple *Mus* species, but with a special emphasis for markers that are informative in the Collaborative Cross and Diversity Outbred population resources. Average spacing: ~25 kb.	Data Sheet	288
Potato	GGP Potato	8K	N/A	The GGP Potato array harnesses Illumina technology with GeneSeek custom content. It consists of approximately 12,000 SNPs selected by the potato research community.	Data Sheet	288

a. Number of samples that can be processed using the smallest kit configuration.

Open Consortia Products

Species	Consortium Name	No. of Markers	Add on Available	Description	Min. Sample Req.
Alfalfa	Forage Genetics Alfalfa	10.5K	80K	High-density alfalfa genotyping array solution for alfalfa genetics applications.	288
Apple	Fruitbreedomics Apple20k	20K	70K	High-density apple genotyping array solution for fruit breeding applications.	96
Apple	RosBREED Apple	9K	80K	The apple genotyping panel was developed by RosBREED, a multiinstitutional, multinational project dedicated to the improvement of the Rosaceae crops with genomics, developed for use on worldwide breeding germplasm.	48
Brassica	International *Brassica* SNP Consortium	52K	25K	SNPs extracted and validated in 80 lines from *B.napus*, 4 lines from *B.oleracea*, and 4 lines from *B.rapa*, designed to work in any *Brassica* A or C genome species.	48
Cherry	RosBREED Cherry	6K	80K	The cherry genotyping panel was developed by RosBREED, a multiinstitutional, multinational project dedicated to the improvement of the rosaceous crops using targeted genomics.	48
Cotton	International Cotton SNP Consortium	70K	20K	The International Cotton SNP Consortium genotyping panel was developed with SNPs from *Gossypium hirsutum*, *G.barbadense*, *G.tomentosum*, and *G.mustelinum*.	288
Goat	International Goat Genome Consortium	60K	30K	Developed by the International Goat Genome Consortium with novel NGS scaffolds and latest genome sequence. Candidate goat SNPs were validated for Alpine, Angora, Boer, Creole, Jinlan, Katjang, Saanen, Savanna, and Skopelos breeds.	48
Grape	GrapeReSeq Consortium	20K	70K	This SNP genotyping tool is useful for mapping and evaluating genetic diversity in the Vitaceae gene pool to support the development of genetic resources and breeding programs that will reduce the use of chemical treatments in viticulture.	96
Oat	Oat Consortium	6K	80K	Private array developed by General Mills and Agriculture and AgriFood Canada. This Consortium is now open to additional interested researchers for oat genomic profiling.	48
Peach	RosBREED Peach	9K	80K	The peach genotyping panel was developed by RosBREED, a multiinstitutional, multinational project dedicated to the improvement of the rosaceous crops using targeted genomics. Suitable for worldwide breeding geoplasms.	48
Pepper	UCD TraitGenetics Pepper (Capsicum) Consortium	19K	70K	The pepper genotyping panel enables cost-effective genotyping of multiple pepper species. Array contains expertly selected content derived from high-quality sequencing data of 22 pepper lines including sweet blocky peppers and hot peppers.	192
Potato	SOLCAP Potato 2013	10K	80K	The potato genotyping panel was developed by the Solanaceae Coordinated Agricultural Project (SolCAP). SNP discovery was completed using Sanger-based SNPs from Kennebec, Bintje, and Shepody ESTs, along with SNPs identified by Illumina transcriptome sequencing.	48
Sheep/Ovine	AgResearch OvineLD Imputation Tool	6K	80K	The AgResearch Ovine Imputation Low Density tool consists of approximately 5,000 SNPs intended for imputation to the OvineSNP50 BeadChip.	96
Soybean	BARSoySNP6k	6K	80K	Developed by the Soybean Genomics and Improvement Lab, Beltsville Agricultural Research Center, for quantitative trait locus analysis and for screening the Soybean germplasm. Provides base content with even coverage of the genome.	192
Tomato	SolCAP Tomato 2013	9K	80K	The SolCAP Tomato genotyping panel was designed by the Solanaceae Coordinated Agricultural Project (SolCAP) and is focused on translating the latest genomic advances to Solanaceae breeding programs. Content is from many lines.	48
Wheat	US/Australia 9k Wheat Consortium	9K	80K	Low density wheat genotyping array that allows the addition of custom content.	48

a. Illumina consortia products are community-driven and are supported as custom products.
b. Number of samples that can be processed using the smallest kit configuration available.

Agrigenomics Resources

GeneSeek Arrays	**Library Preparation**
GGP Whole-Genome Genotyping Arrays	Library Prep Kit Selector
Arrays: Custom	TruSeq® Synthetic Long-Read DNA Library Prep Kit
iSelect® Arrays (SNPs 3K—700K)	Ribo-Zero® rRNA Removal Kit (Plant), ScriptSeq™ Complete Kit (Plant)
Instruments: Arrays	Ribo-Zero Gold rRNA Removal Kit (Human/Mouse/Rat)
iScan® System, HiScan® System, AutoLoader	TruSeq Stranded Total RNA with Ribo-Zero Globin
Instruments: Sequencing	TruSeq Stranded Total RNA with Ribo-Zero Plant
MiSeq®, NextSeq® 500, HiSeq® 2500, HiSeq 3000/4000 Systems	
Additional Ag-Focused Resources	
Agrigenomics Publications	**iCommunity Articles**
Agrigenomics Blog Articles	**Agricultural Greater Good Initiative**

Learn More

For more information on consortia arrays, visit www.illumina.com/applications/agriculture/consortia.html

For availability of other consortia arrays, contact consortiamanager@illumina.com.

New products are regularly developed.

For more information on any of these products or to place an order, contact your Genotyping specialist or a local sales representative:

- North America: 800.809.4566
- Europe, Middle East, Africa: +44.1799.534000
- Other regions: www.illumina.com/company/contact-us.html

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