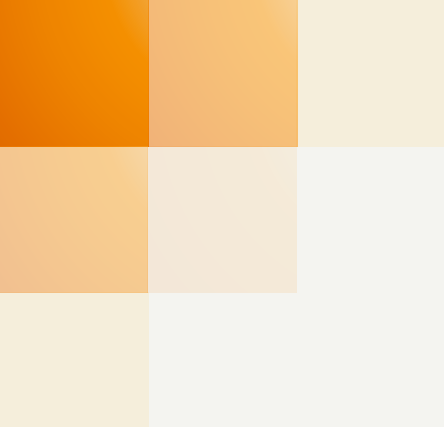
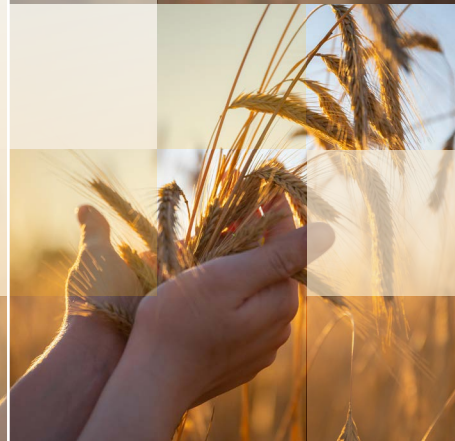




illumina[®]

Agrigenomics Arrays Portfolio



Animal and Plant Genotyping

Illumina Infinium™ genotyping arrays combine cutting-edge technology with a proven track record of quality and reliability for agricultural research and breeding applications. Illumina offers a complete range of off-the-shelf and fully customizable products to support research, screening and testing applications in agrigenomics.

Animal

Cattle Array



Markers
~53,000

Array format
HTS-24, XT-96



Autosomal markers:	~53,000
XY markers:	~1,100
mtDNA markers:	13
Parentage:	~200 ISAG markers



BovineSNP50 v3



Applications

Complex traits (GWAS)

Monogenic traits screening

Parentage verification

Genetic Diversity

Breed purity / composition

Imputation

Sheep Array



Markers
~52,000

Array format
HTS-24, XT-96



Autosomal markers:	~50,000
XY markers:	~1,400
mtDNA markers:	33
Trait-related markers:	>100
Parentage:	~200 markers



OvineSNP50K v3



Applications^{1,2}

Complex traits (GWAS)

Monogenic traits screening

Parentage verification

Genetic Diversity

Genomic Selection

Imputation

Goat Array



Markers
~79,000

Array format
HTS-24, XT-96

Autosomal markers:	~77,000
XY markers:	>2,000
mtDNA markers:	>300
Trait-related markers:	>1,000
Parentage:	~200 markers



Goat_IGGC_75K_v3



Applications³

Genomic Selection
Complex traits (GWAS)
Monogenic traits screening
Parentage verification
Genetic Diversity
Breed purity / composition
Imputation

Pig Array



Markers
~75,000

Array format
HTS-24, XT-96



Autosomes:	~72,500
XY markers:	~3,200
Trait-related markers:	>1,000



PorcineSNP 80K



Applications

Complex traits (GWAS)
Monogenic traits screening
Parentage verification
Genetic Diversity
Breed purity / composition
Imputation

Horse Array



Markers
~84,000

Array format
HTS-24 XT-96



Autosomal markers:	~80,000
XY markers:	~4,000
Trait-related markers:	126
Parentage:	~2,000 ISAG markers (validation set)



Equine80Kselect



Applications⁴

Genomic Selection
Parentage verification
Genetic Diversity
Breed purity / composition
Whole-genome imputation
SNP-to-STR imputation

Camel Array



Markers
~56,000

Array format
HTS-24

Autosomes:	~55,000
Chromosome X:	721
mtDNA:	71
Markers in genes of interest [47]:	~800



Dog Array



Markers
~172,000

Array format
HTS-24



Autosomal markers:	~165,000
X markers:	~5,000
Trait-related markers:	>5,000



Bee Array



Markers
~70,000

Array format
HTS-24, XT-96

Autosomal markers:	~70,000
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CamelSNP60



Applications

GWAS
Genomic Selection
Population Genetics
Carrier Screening
Parentage verification

Canine HTS



Applications⁵

Complex traits (GWAS)
Monogenic traits screening
Parentage verification
Genetic Diversity
Breed purity / composition
Imputation

BeeHTS



Applications

Complex traits (GWAS)
Gene Discovery
Genetic Diversity
Genetic Selection

Plants & Crops

Wheat & Barley Array



Markers
~40,000

Array format
HTS-24, XT-96

Wheat: ~19,000 imputation markers
~4,000 diversity markers

Barley: ~15,000 imputation markers
~200 trait-associated markers



WheatBarley40k



Applications⁶

Genomic Selection

Genetic Diversity

Fingerprinting

Purity testing / QC

Imputation

Marker-assisted selection

Trait mapping (GWAS)

Pulses Array



Markers
~30,000

Array format
HTS-24, XT-96

Lentil: ~10,000 markers

Field pea: ~10,000 markers

Chickpea: ~4,500 markers

Lupin: ~5,500 markers



AVRGRDC_Pulses_v1



Applications⁷

Genomic Selection

Population Genetics

GWAS

Imputation to whole-genome

Small Grains Array



Markers
~12,000

Array format
HTS-24, XT-96

Wheat: ~3,400 markers

Oat: ~3,000 markers

Barley: ~3,000 markers

Soy: ~3,000 markers



USDA_SoyWheBarOat_3k



Applications⁸

Genomic Selection

Genetic Diversity

Fingerprinting

Purity testing / QC

Imputation

Cotton Array



Markers
27,349

Array format
HTS-24

Agronomic traits: ~100 markers

77% markers polymorphic in cultivated *Hirsutum*

Remaining markers work for *Hirsutum* landraces, cultivated *Barbadense*, or other diploid and tetraploid *Gossypium* species



Cotton30K



Applications

Genomic Selection

Genetic Diversity

Fingerprinting

Purity testing / QC

GWAS

Imputation

Potato Array



Markers
31,005

Array format
XT-96

Potato V4 content: 30,991 markers

Additional Trait specific content
(vs Potato V3) Important industry
markers such as *Ry*, *H1*,
Sli, *CDF1*, and more.

+14 markers

Optimal genome coverage, candidate
genes and regions with resistance
genes, together with >9K SNPs from
RNA-Seq of diploid species and
GBS sequence data.



Potato_V5_Infinium_Array



Applications

Genomic Selection

Germplasm Diversity

Fingerprinting

Variety Identification

Populations Mapping

Agrigenomics Methylation Array

Illumina Infinium methylation microarrays provide an advanced solution for investigating DNA methylation, featuring innovative content and efficient, scalable workflows that enable the generation of high-quality data for both epigenetic and epigenomic studies.

Bovine Methylation Array



CpG Sites
~42,500

Array format
HTS-24

Targets known phenotypic associations:
fertility, age, breed, nutrition, physiological and inflammatory status, heat stress and metabolic stress

Enhance regulatory understanding:
covers relevant functional elements of the genome including gene promoters, expression QTLs, and CTCF sites

Validated on diverse sample types:
blood, semen, and embryos



Applications

Epigenome-Wide Association Studies (EWAS)

Epigenetic Biomarker Discovery

Trait Association and Gene Regulation Studies



Ordering Information

Array	Species	Array format	Catalog numbers	Kit size (samples)	Product Type	Product Name
Animals	Cattle	HTS-24	20000766	48	Off-the-shelf	BovineSNP50 v3-24
			20000767	288		
			20000768	1,152		
	Cattle	XT-96	20006613	1,152	Off-the-shelf	BovineSNP50 v3-XT
			20006614	4,608		
			20006615	23,040		
	Cattle	HD-8	15014416	16	Off-the-shelf	BovineHD
			15014418	48		
			15014419	96		
			15014420	384		
	Cattle	HTS-24	20042146	48	Consortium, Methylation	Bovine Methylation Array BC PN 20042758X400152
	Sheep	HTS-24	15042264	48	Consortium	OvineSNP50 v3-24
			15042265	288		
			15042266	1,152		
	Sheep	XT-96	20006613	1,152	Consortium	OvineSNP50 v3-XT
			20006614	4,608		
			20006615	23,040		
	Goat	HTS-24	15042264	48	Consortium	Goat_IGGC_65K_v2-24
			15042265	288		
			15042266	1,152		
	Pig	HTS-24	15042264	48	Consortium	PorcineSNO80 v1-24
			15042265	288		
			15042266	1,152		
	Pig	XT-96	20006613	1,152	Consortium	PorcineSNO80 v1-XT
			20006614	4,608		
			20006615	23,040		
	Horse	HTS-24	15042264	48	Consortium	Equine80select_v2_1_HTS
			15042265	288		
			15042266	1,152		
	Horse	XT-96	20006613	1,152	Consortium	Equine80Kselect_v2_1
			20006614	4,608		
			20006615	23,040		
	Camel	HTS-24	15042264	48	Consortium	CamelSNP60K-24
			15042265	288		
			15042266	1,152		
	Dog	HTS-24	20103711	48	Off-the-shelf	CanineHTS-24
			20103712	288		
			20103713	1,152		
	Bee	HTS-24	15042264	48	Consortium	HoneyBeeHTS-24
			15042265	288		
			15042266	1,152		

Ordering Information

Array	Species	Array format	Catalog numbers	Kit size (samples)	Product Type	Product Name
Plants	Wheat & Barley	HTS-24	15042264	48	Consortium	WheatBarley40k-24
			15042265	288		
			15042266	1,152		
	Wheat & Barley	XT-96	20006613	1,152	Consortium	WheatBarley40k-XT
			20006614	4,608		
			20006615	23,040		
	Barley	HTS-24	15042264	48	Consortium	Barley50k-24
			15042265	288		
			15042266	1,152		
	Sorghum	HTS-24	15042264	48	Consortium	Sorghum v1 (50K)-24
			15042265	288		
			15042266	1,152		
	Pulses	HTS-24	15042264	48	Consortium	AVRGRDC_Pulses_v1-24
			15042265	288		
			15042266	1,152		
	Pulses	XT-96	20006613	1,152	Consortium	AVRGRDC_Pulses_v1-XT
			20006614	4,608		
			20006615	23,040		
	Small Grains	HTS-24	15042264	48	Consortium	USDA_SoyWheBarOat_3k-24
			15042265	288		
			15042266	1,152		
	Small Grains	XT-96	20006613	1,152	Consortium	USDA_SoyWheBarOat_3k-XT
			20006614	4,608		
			20006615	23,040		
	Cotton	HTS-24	15042264	48	Consortium	Cotton30K
			15042265	288		
			15042266	1,152		
	Potato	XT-96	20006613	1,152	Consortium	Potato_V5_Infinium_Array
			20006614	4,608		
			20006615	23,040		

Other Agrigenomics Products



iScan™ System

A high-precision scanner that supports an extensive range of array applications, including genotyping, methylation profiling, and cytogenetic analysis.

ilmn.ly/agprod1



Infinium XT

Infinium XT is a comprehensive microarray solution that enables production-scale genotyping of up to 100,000 single or multi-species custom variants.

ilmn.ly/agprod2



Infinium™ HTS iSelect™ Custom Beadchips

Interrogate virtually any target across any species to create a fully customized microarray tailored to your unique study needs.

ilmn.ly/agprod3



Infinium Custom Methylation Kit

Create a fully customized methylation microarray for large targeted studies or commercial offerings.

ilmn.ly/agprod4

References

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2. International Sheep Genomics Consortium: [ilmn.ly/sheep2](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/sheep2)
3. International Goat Genome Consortium (IGGC): [ilmn.ly/goat](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/goat)
4. Dr. Kathrin Stock Applications of the Equine80select array: [ilmn.ly/horse](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/horse)
5. Canine HTS Datasheet: [ilmn.ly/dog](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/dog)
6. Gabriel Keeble-Gagnère, et al., Novel Design of Imputation-Enabled SNP Arrays for Breeding and Research Applications Supporting Multi-Species Hybridization, 2021: [ilmn.ly/wheat](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/wheat)
7. Reference: On-demand webinar. Development and Implementation of Genomic Selection in Pulse Crops. Dr. Sukhjiwan Kaur, Agriculture Victoria: [ilmn.ly/pulse](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/pulse)
8. On demand webinar. A multi-species, low-cost, genome-wide genotyping platform to support molecular breeding in small grains: [ilmn.ly/smallgrains](https://illumina.com/resources/genomics/illuminas_gen/ilmn.ly/smallgrains)