

illumina®

Agrigenomics Genotyping 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

BovineSNP50 v3



Markers
~53,000

Array format
HTS-24, XT-96



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



Applications

Complex traits (GWAS)

Monogenic traits screening

Parentage verification

Genetic Diversity

Breed purity / composition

Imputation

Sheep Array

OvineSNP50K v3



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



Applications^{1,2}

Complex traits (GWAS)

Monogenic traits screening

Parentage verification

Genetic Diversity

Genomic Selection

Imputation

Goat Array

Goat_IGGC_75K_v3



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



Applications³

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

Pig Array

PorcineSNP 80K



Markers
~75,000

Array format
HTS-24, XT-96



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



Applications

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

Horse Array

Equine80select



Markers
~76,000

Array format
HTS-24, XT-96

Autosomal markers :	~72,000
XY markers:	~4,000
Trait-related markers:	126
Parentage:	~2000 ISAG markers (validation set)



Applications⁴

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

Camel Array

CamelSNP60



Markers
~56,000

Array format
HTS-24

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



Applications

- GWAS
- Genomic Selection
- Population Genetics
- Carrier Screening
- Parentage verification



Dog Array

Canine HTS



Markers
~172,000

Array format
HTS-24



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



Applications⁵

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



Bee Array

HoneyBeeHTS



Markers
~70,000

Array format
HTS-24, XT-96

Autosomal markers :	~70,000
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Applications

- Complex traits (GWAS)
- Gene Discovery
- Genetic Diversity
- Genomic 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: ~3000 markers

Soy: ~3,000 markers



USDA_SoyWheBarOat_3k



Applications⁸

Genomic Selection

Genetic Diversity

Fingerprinting

Purity testing / QC

Imputation

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		
	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	PorcineSNP80 v1-24
			15042265	288		
			15042266	1,152		
	Pig	XT-96	20006613	1,152	Consortium	PorcineSNP80 v1-XT
			20006614	4,608		
20006615			23,040			
Horse	HTS-24	15042264	48	Consortium	Equine80select-24	
		15042265	288			
		15042266	1,152			
Horse	XT-96	20006613	1,152	Consortium	Equine80Kselect-XT	
		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			
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		

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

1. OvineSNP50K Datasheet: ilmn.ly/sheep1
2. International Sheep Genomics Consortium: ilmn.ly/sheep2
3. International Goat Genome Consortium (IGGC): ilmn.ly/goat
4. On-demand webinar. Dr. Kathrin Stock Applications of the Equine80select array: ilmn.ly/horse
5. Canine HTS Datasheet: 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
7. Reference: On-demand webinar. Development and Implementation of Genomic Selection in Pulse Crops. Dr. Sukhjiwan Kaur, Agriculture Victoria: 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