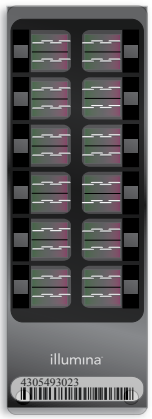
Infinium® HumanCore BeadChips

Customizable array for cost-effective large-scale genotyping and screening studies.

Figure 1: HumanCore BeadChip



The HumanCore BeadChip enables genotyping of markers informative across diverse world populations, delivering hiqh-quality data that can be used for a variety of downstream applications.

Overview

Customizable HumanCore BeadChips offer the most economical way to perform and support large genetic studies, especially large-scale genotyping studies. Developed in collaboration with several leading research institutions, HumanCore BeadChips contain more than 240,000 highly-informative genome-wide tag SNPs and over 20,000 high-value markers, including indels and updated exome-focused content. Furthermore, the HumanCore+ BeadChip has the added capacity to include up to 200,000 semi-custom markers. In addition to performing cost-effective large-scale genotyping studies, HumanCore BeadChips can be used to quickly and easily obtain baseline sample datasets for a variety of downstream applications, including common variant, mtDNA, ancestry, sex confirmation, loss-of-variant, indel, and CNV detection studies.

HumanCore and HumanCore+ BeadChips are based upon the trusted Infinium assay. Using the proven iScan or HiScan™SQ System, these twelve-sample BeadChips combine affordability with high-throughput sample processing to deliver high-quality, genome-wide information.

HumanCore BeadChip Product Information

Feature	Description
Number of tagSNP markers	250,421
Number of additional high-value markers (indels, exomes)	> 20,000
Headroom for additional custom markers	200,000
Number of samples per HumanCore BeadChip	12 samples
Number of samples per HumanCore+ BeadChip	12 samples
DNA Requirement	200 ng
Assay	Infinium HD
Instrument Support	HiScanSQ, HiScan, or iScan
Sample Throughput**	> 1,400 / week
Scan Time / Sample	5 minutes

% Variation Captured† (r^2 > 0.8)	1kGP† MAF > 5%	1kGP† MAF > 1%
CEU	0.57	0.44
CHB + JPT	0.61	0.49
YRI	0.26	0.15

Data Performance	Value‡ / Product Specification
Call Frequency	99.9% / > 99.9% avg.
Reproducibility	99.9% / > 99.9%
Log R Deviation	0.17 / < 0.30§

Spacing	Mean
Spacing (kb)	1 SNP / 10 kb

** Estimate assumes one iScan system, one AutoLoader2, one Tecan Robot, and a five-day work week.

† Compared against the June 2011 1kGP data release.

‡ These are representative values for Infinium performance.

§ Value expected for typical projects, excluding tumor samples or any samples prepared not following standard Illumina protocols.

HumanCore BeadChip Marker Information

Marker Categories	Number of Markers
Loss of function	35,222
Insertion/Deletion	12,602
X Chromosome	8,107
Y Chromosome	1,943
Mitochondrial	205
Exonic ADME	6,051
QC SNPs	43

Ordering Information

HumanCore BeadChip Kit v1-0	Catalog No.
48 sample	WG-330-1101
288 sample	WG-330-1102
1152 sample	WG-330-1103
HumanCore+ BeadChip Kit v1-0 *	
48 sample	WG-330-1111
288 sample	WG-330-1112
1152 sample	WG-330-1113

* Enabled for custom content.

Illumina • 1.800.809.4566 toll-free (U.S.) • +1.858.202.4566 tel • techsupport@illumina.com • www.illumina.com

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AGAATGATAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTCTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAAC
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