illumina®

Infinium® OmniExpress-24 v1.2 BeadChip

Discover novel trait and disease associations with common tag SNPs at an attractive price.

Overview

The Infinium OmniExpress-24 v1.2 BeadChip delivers superior power for genome-wide association studies (GWAS) and provides high sample throughput with comprehensive genomic content. Using the proven HiScan® or iScan® System, these BeadChips offer unrivaled throughput of thousands of samples per week—the ideal solution for processing the greatest number of samples within a given budget. Optimized tag SNP content from all 3 HapMap phases has been strategically selected to capture the greatest amount of common SNP variation and drive the discovery of novel associations with traits and diseases. For greater flexibility, the Infinium OmniExpress-24+ v1.2 BeadChip can be customized with 30,000 additional attempted bead types.

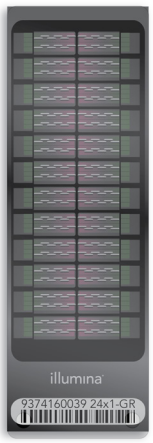

Figure 1: Infinium OmniExpress-24 v1.2 BeadChip—The Infinium OmniExpress-24 v1.2 BeadChip provides excellent coverage of common SNP variation as assessed by the International HapMap Project.

Table 1: Infinium OmniExpress-24 v1.2 BeadChip Product Information

Feature	Description	
Total Number of Markers	713,599	
Capacity for Custom Bead Types	30,000	
Number of Samples per BeadChip	24	
DNA Input Requirement	200 ng	
Assay	Infinium HTS	
Instrument Support	iScan or HiScan	
Sample Throughput[a]	> 2800 samples / week	
Scan Time per Sample	iScan[a] 2.5 min	HiScan 3.5 min

	LD Coverage ($r^2 \geq 0.8$)		
Population[b]	1kGP[c] MAF > 1%	1kGP[c] MAF > 2.5%	1kGP[c] MAF > 5%
AFR	0.26	0.34	0.42
AMR	0.53	0.65	0.71
EAS	0.66	0.73	0.78
EUR	0.62	0.71	0.77
SAS	0.57	0.67	0.72

Data Performance	Value[d]	Product Specification	
Call Rate	99.84%	> 99% avg.	
Reproducibility	99.99%	> 99.9%	
Log R Deviation	0.09	< 0.30[d]	
Spacing	**Mean**	**Median**	**90th%[e]**
Spacing (kb)	4.08	2.22	9.44

a. Estimate assumes 2 iScan systems, one AutoLoader 2.x, 2 Tecan robots, and a 5-day work week.
b. See www.1000genomes.org/category/frequently-asked-questions/population
c. Compared against the Phase 3 1kGP data release (2014). www.1000genomes.org
d. Values are derived from genotyping 330 HapMap reference samples.
e. Value expected for typical projects using standard Illumina protocols. Tumor samples and samples prepared by methods other than standard Illumina protocols are excluded.

Abbreviations: 1kGP, 1000 Genomes Project; MAF, minor allele frequency; LD, Linkage Disequilibrium.

For Research Use Only. Not for use in diagnostic procedures.

Table 2: Infinium OmniExpress-24 v1.2 BeadChip Marker Information

Marker Categories	Number of Markers[a]		
In RefSeq[b] Genes	328,665 (395,647[c])		
In RefSeq Exons	47,197		
In RefSeq Promoter Regions	21,255		
In ADME Genes	12,938 (16,007[c])		
In ADME Exons	1533		
MHC (Extended MHC[d])	4832 (7200)		
Overlap with Genes in COSMIC[e]	299,676		
Overlap with Genes in Gene Ontology[f]	82,281		
Nonsense Markers	123		
Missense Markers	12,300		
Synonymous Markers	10,908		
Silent Markers	23,866		
Mitochondrial Markers	0		
Indels	0		
Sex Chromosomes	X 17,565	Y 1258	Par Loci 683

a. Compared against the June 2011 1kGP data release.
b. RefSeq - NCBI Reference Sequence Database. www.ncbi.nlm.nih.gov/refseq
c. Within 10 kb.
d. MHC is a ~ 4 Mb region; extended MHC is a ~ 8 Mb region.
e. Catalog of somatic mutations in cancer. http://cancer.sanger.ac.uk/cosmic
f. Gene Ontology Consortium. www.geneontology.org
Abbreviations: ADME, absorption, distribution, metabolism, and excretion; MHC, Major Histocompatibility Complex.

Ordering Information

Infinium OmniExpress-24 v1.2 Kit	Catalog No.
48 samples	20001122
288 samples	20001123
1152 samples	20001124
Infinium OmniExpress-24+ v1.2 Kit*	**Catalog No.**
48 samples	20001125
288 samples	20001126
1152 samples	20001127

*Enabled for additional custom content

Learn More

To learn more about the Infinium OmniExpress-24 v1.2 BeadChip and other Illumina genotyping products and services, visit: www.illumina.com/applications/genotyping.html.

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

For Research Use Only. Not for use in diagnostic procedures.

© 2016 Illumina, Inc. All rights reserved. Illumina, Infinium, iScan, HiScan, and the pumpkin orange color are trademarks of Illumina, Inc. and/or its affiliate(s) in the U.S. and/or other countries. Pub. No. 370-2009-019 Current as of 15 April 2016

illumina®

AGAATGATAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTCTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAAC
TCAACGTACCGTAACGAACGTATCATTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTGCAACGACGAAAAGAATGATAACAGTAACACACTTCTGTTAACCTT
CGACGAAAAGAATGATAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACC
AACGTACCATTAAGAGCTACCGTGCAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTGCAACGACGAAAAGAATGATAA
AGAATGATAACAGTAACACACTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTCTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAAC
GATTACTTGATCCACTGATTCAACGTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGCTTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAGCAACGACG
CGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGTCTGTTAACCTTAAGATTACTTGATCCACTGATTCAACGTACCGTAACGAACGTATCAATTGAGACTAAATATTAACGTACCATTAAGAGCTACCGTGCAACGAAAAGAATGATAACAGTA