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HumanOmni5Exome-4 BeadChips

The most powerful and flexible array, providing comprehensive genomic coverage, and functional exonic content for whole-genome genotyping and CNV analysis.



Overview

The HumanOmni5Exome-4 and HumanOmni5Exome-4+ BeadChips (Figure 1) deliver the most comprehensive coverage of the genome, providing functional exonic content for whole-genome genotyping and copy number variation (CNV) analysis. The BeadChips include optimized tag SNPs targeting genetic variation down to 1% minor allele frequency (MAF). The Omni5Exome-4+ version can be customized with up to 250,000 additional attempted beadtypes, providing researchers greater flexibility to tailor the BeadChip for targeted applications and population studies. Using the proven HiScan® or iScan® Systems and integrated analysis software, these four-sample BeadChips offer optimized tag SNPs, exonic content, and fully supported CNV analysis. Combined with convenient packaging and a streamlined PCR-free protocol, the HumanOmni5Exome-4 BeadChip kits provide a comprehensive endto-end DNA analysis solution.

Description Feature Total Number of Markers 4,548,474 Exonic Markers 528,674 Capacity for Custom up to 250,000 Markers Number of Samples 4 per BeadChip **DNA Requirement** 400 na Infinium® LCG Assay Instrument Support HiScan or iScan Sample Throughput* ~460 samples / week Scan Time / Sample 15 minutes (HiScan) 38 minutes (iScan) % Variation Captured 1KGP[†] 1KGP[†] (r² > 0.8) MAF > 5% MAF > 1% CEU 0.87 0.84 CHB + JPT 0.85 0.76 YRI 0.71 0.58 Data Performance Value[‡] / Product Specification Call Rate 99.92% / > 99% avg. Reproducibility 99.99% / > 99.9% Log R Deviation 0.10 / < 0.30§ Mean / Median / 90th[†] Spacing Spacing (kb) 0.64 / 0.33 / 1.50 * Estimate assumes one HiScan system, one AutoLoader 2.x, one Tecan robot, and a five-day work week. [†] Compared against the June 2011 1000 Genomes Project (1KGP)¹ data release. [‡] Values are derived from genotyping 454 HapMap reference samples. § Value expected for typical projects using standard Illumina protocols. Tumor

HumanOmni5Exome-4 Product Information

[§] Value expected for typical projects using standard Illumina protocols. Tumor samples and samples prepared by methods other than standard Illumina protocols are excluded.

larker Categories	Number of Markers*
lumber of SNPs with) kb of RefSeq genes	2,619,802
lonsense SNPs NCBI annotated)	6011
Vissense SNPs	273,095
Synonymous SNPs	72,417
litochondrial SNPs	382
ndelst	4552
1HC / Exonic ADME	49,773 / 10,260
/ Y / Par loci	118,236 / 2437 / 5365

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* Compared against the June 2011 1KGP data release.

[†] Provided by the 1KGP structural variation group.

Additional Information

To learn more about the HumanOmni5Exome-4 BeadChips and other Illumina genotyping products and services, visit

www.illumina.com/applications/genotyping/human-genotyping-arrays/ omni-arrays.html.

References

1. 1000 Genomes Project (1KGP) (www.1000genomes.org)

Ordering Information HumanOmni5Exome-4 v1.2 Catalog No. **BeadChip Kits** 16 samples WG-313-5010 48 samples WG-313-5011 WG-313-5012 96 samples WG-313-5013 384 samples HumanOmni5Exome-4+ v1.2 BeadChip Kits* 16 samples WG-313-5014 48 samples WG-313-5015 96 samples WG-313-5016 WG-313-5017 384 samples * Enabled for additional custom content.

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