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Infinium[®] OncoArray-500K BeadChips

Evaluate genetic variants associated with five common cancers on a single array.

_	Figure 1: OncoArray-500K BeadChip
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	illumna' illumna' ne OncoArray-500K BeadChip is a comprehensive cancer array providing
	ccellent coverage of expert-selected SNPs plus variant markers from five revalent cancers.

Overview

The Infinium OncoArray-500K BeadChip is a 24-sample format Illumina array with content drawing on many features of the Collaborative Oncological Gene-environment Study (iCOGS) array¹. Developed in collaboration with leading experts from the OncoArray consortium*, the OncoArray offers the most comprehensive, highestdensity BeadChip available for researching cancer predisposition and risk. The OncoArray contains ~500,000 SNPs with a genomewide backbone of ~275,000 tag SNPs. Additional SNPs include genetic variants associated with breast, colorectal, lung, ovarian, and prostate cancers plus SNPs covering ancestry, quantitative traits, pharmacogenetics, and fine-mapping of common cancer susceptibility loci. To support additional research requirements, the OncoArray BeadChip can be tailored to incorporate up to 120,000 custom beadtypes.

The OncoArray utilizes a 24-sample high-throughput screening (HTS) BeadChip to enable maximum throughput, productivity, and genotyping accuracy. Using the proven iScan or HiScan® System, the OncoArray is designed to combine affordability with high-density content, providing substantial insight into the relationship between gene variants and cancer predisposition in five of the most prevalent cancers.

OncoArray-500K BeadChip Product Information -

Feature	Description
Total number of markers	499,170
Number of tag SNPs*	275,691
Cancer-specific variants [†]	
Breast	~120,000
Colorectal	~40,000
Lung	~45,000
Ovarian	~50,000
Prostate	~80,000
Headroom for additional custom markers	120,000
Number of samples per OncoArray BeadChip	24
DNA requirement	200 ng
Assay	Infinium HTS
Instrument support	iScan or HiScan
Sample throughput [‡]	5,760 samples / week
Scan time / Sample	2.5 minutes
Spacing	Mean
Spacing (Kb)	1 marker / 5.4 Kb

* Defined by SNPs that overlap in position with those on the HumanOmniExpress-24 BeadChip.

⁺ Overlap may exist between variants in some cancer types.

 ‡ Estimate assumes one dual iScan system, one AutoLoader 2.x, one Tecan robot, and a five-day work week.

OncoArray-500K BeadChip Common Variants

Marker Categories	Number of Markers
Loss of function	24,808
Insertion / Deletion	10,208
X Chromosome	14,299
Y Chromosome	312
Mitochondrial SNPs	120
Exonic ADME SNPs	4,626

^{*} The OncoArray consortium is an international collaboration of leading experts from the NCI-supported Genetic Association and Mechanisms in Oncology (GAME-ON) consortium, Genome Canada, Genome Quebec, and Cancer Research UK.

Ordering Information

OncoArray-500K BeadChip Kit	Catalog No.
48 samples	WG-355-1001
288 samples	WG-355-1002
1152 samples	WG-355-1003
OncoArray-500K BeadChip Kit*	
48 samples	WG-355-1011
288 samples	WG-355-1012
1152 samples	WG-355-1013

Additional Information

To learn more about the Infinium OncoArray-500K BeadChip and other Illumina genotyping products and services, visit www.illumina.com/ applications/detail/snp_genotyping_and_cnv_analysis/focused_geno-typing.ilmn.

References

1. www.nature.com/icogs/primer/cogs-project-and-design-of-the-icogs-array/

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