

NimbleGen ChIP-chip 4x72K Array Delivery

Flexible, cost-effective multiplex platform for targeted ChIP-chip analysis

NimbleGen ChIP-chip 4x72K arrays enable you to analyze transcription factor binding, interrogate chromatin structure, and discover novel DNA functional elements at high resolution and sensitivity. Each multiplex array permits the simultaneous analysis of four samples at 72,000 probes per sample.

These 4x72K arrays are available for delivery for use in your laboratory or core facility. They offer a higher-throughput, lower-cost solution for testing the quality of ChIP samples before moving to large-scale studies. The arrays allow hybridization of four independent ChIP samples on each multiplex microarray slide or the analysis of three test samples and a common control on each slide.

Advantages

- **Cost-Effective, Multiplex Platform for High-Resolution Mapping**
 - Accurately analyze four samples simultaneously on a single slide.
 - Utilize 72,000 probes on each array for high-resolution tiling of biologically significant ENCODE regions or customize the array content to precisely map protein binding sites and interrogate chromatin structure.
- **High Sensitivity and Specificity for Unparalleled Results**
 - Achieve high sensitivity and specificity with NimbleGen's long, oligo probes (50 - 75mer) in combination with our stringent hybridization protocol.
 - Routinely detect as little as 1.25- to 2-fold enrichment of the target binding site within the ChIP sample.
 - Eliminate interarray variation with our 2-color protocol for simultaneous analysis of enriched and control sample on a single array.



NimbleGen ChIP-chip 4x72K Array Performance. ChIP reactions were performed to enrich for the repressive histone mark, tri-methylated histone H3 lysine 27 (H3K27me3). ChIP and control (total genomic DNA) samples were amplified, labeled with Cy5 and Cy3, respectively, and hybridized to a NimbleGen ChIP-chip Human 4x72K ENCODE array, which were then scanned using a 5µm scanner. The raw data were analyzed for peaks (significant regions of enrichment) using our NimbleScan software and visualized in our SignalMap software. Data shown are within the HoxA cluster on chromosome 7, a region associated with repressive histone marks, such as H3K27me3. The figure demonstrates that the Human 4x72K ENCODE array is similar in terms of sensitivity with the NimbleGen Human 2.1M (HD2) Deluxe Promoter array, which tiles the biologically significant ENCODE pilot regions at 100bp spacing.

NimbleGen Human ChIP-chip 4x72K ENCODE Array

Table 1: Design and Ordering Information

Catalog No.	Design No.	Organism	Build	Slides	Number of Arrays per Slide	Resolution (Mean/Median Probe Spacing)
05224047001	570601	Human	hg17	1	4	100bp/105bp

Comments: Each array covers selected biologically significant ENCODE* pilot regions including HoxA, β -globin, Apo, and others. The design includes 277 CpGs on each array.

* The ENCODE region consists of ~30Mb (1%) of the human genome: half of which are random and half of which are manually selected (biologically significant).

NimbleGen ChIP-chip 4x72K Microarray Specifications

Total probes	4 x 72,000
Probe length	50 - 70mer
Probe spacing	Varies depending on design
Feature size	16 μ m x 16 μ m
Array size	7.8mm x 5.7mm
Slide size	1" x 3" (25mm x 76mm) glass
Sequence source	UCSC Genome browser, NCBI



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