

NimbleGen MS 200 Microarray Scanner

Unleash the full potential of NimbleGen microarrays

The NimbleGen MS 200 Microarray Scanner is the first scanner optimized to reveal the full potential and capture the complete picture from NimbleGen DNA microarrays. The MS 200 offers 2 micron resolution and heightened sensitivity to achieve high-quality data and confident results from the high-density NimbleGen microarrays of today and tomorrow. Critical to the workflow, NimbleScan and SignalMap software are included to analyze and view the high-quality data from the MS 200.

High-throughput genomics research is now possible with the MS 200's automated features, which are specifically designed for the NimbleGen microarray workflow. Advanced features such as a 48-slide autoloader, integrated barcode reader, autofocus, and auto gain combine to offer walkaway automation, allowing you to focus on your science.

The MS 200's high-resolution, high-sensitivity, and high-throughput capabilities are an integral part of the microarray workflow and unleash the full potential of NimbleGen high-density genomics platforms.



Advantages

- 2µm pixel resolution for optimal scanning of high-density NimbleGen DNA microarrays
- Autoloader for automated batch processing of up to 48 slides for 24-hour unattended operation
- High signal-to-noise for high quality data and confident results.
- Integrated barcode reader for sample identification and tracking
- Advanced dynamic autofocus and auto gain for a clear, bright scan every time
- Internal QC reference slide for easy calibration; scan with confidence every time
- Isolated slide magazine and carbon-filtered airflow to reduce degradation of fluorescent dyes
- Upgradable to ensure compatibility with high-density NimbleGen arrays of today and ultra-high density arrays of tomorrow

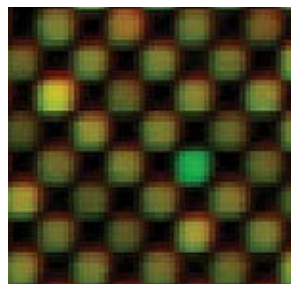
▶ **Figure 1:** High-throughput, high-resolution scanning with the ability to load and automatically scan up to 48 slides for fast scans, high quality data, and confident results.



NimbleGen MS 200 Microarray Scanner Specifications

| | |
|---------------------------------------|--|
| Pixel resolution | 2µm, 5µm, 10µm, 20µm, 40µm |
| Dynamic range | 10 ⁵ (16-bit data format) |
| Recommended dyes | Cyanine 3 (Cy3) and Cyanine 5 (Cy5) |
| Uniformity | <4% CV global non-uniformity based on 22 x 60mm scan area |
| Limit of detection | 0.0025 Cy3; 0.005 Cy5 (chromophores/µm ²) |
| Autofocus | Auto-adjusts for optimal focus position and angle to ensure features stay in focus while scanning |
| Light sources | Two solid-state lasers (532nm and 635nm) |
| Slide magazine | Holds up to 48 slides for walkaway automation |
| Slide scanning speed | 2-color simultaneous data acquisition in 28 minutes for a 2.1M array at 2µm resolution with auto gain on |
| Auto gain adjustment | 1-1000%; channels balanced |
| Scan window maximum | 22 x 75mm |
| Pixel placement error | <2 pixel shift in spatial position per 7,200 pixels scanned |
| Supported glass specifications | 25 x 75mm (1 x 3in) glass slides - Agilent and NimbleGen glass slide dimensions Detailed dimensions: Width: 24.6 - 26.0mm Length: 75.0 - 76.5mm Thickness: 0.8 - 1.2mm |
| Ozone protection | Carbon-filtered airflow |
| Barcode reader | Reads Code 39 and Code 128 barcode formats |
| PC operating system | Microsoft Windows Vista Business (64-bit) |
| Outer dimensions | Width: 60.0cm (23.6in) Height: 46.6cm (18.5in) Depth: 61.8cm (24.4in) |
| Weight | Approximately 38kg (84.0lb) |
| Power supply | Auto sensing: 100 - 120V / 220 - 240V, 50/60Hz |

2µm Resolution Scan



5µm Resolution Scan

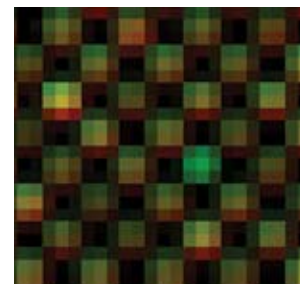


Figure 2: Images of a NimbleGen Array. Comparison of a NimbleGen array scanned at 2µm and 5µm resolution. The increased resolution at 2µm scanning enables high data quality and more confident results from high-density NimbleGen microarrays.

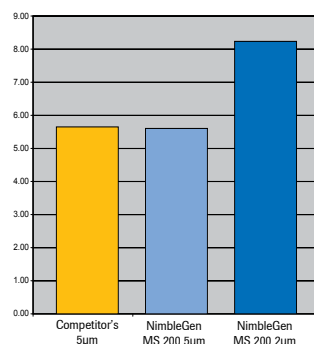


Figure 3: Signal-to-Noise Performance Data. The MS 200 at 2µm resolution provides ~1.4x higher signal-to-noise compared with 5µm resolution scans (data shown from NimbleGen CGH arrays). The improved sensitivity provides higher data quality, with reduced noise, for more confident results.

Ordering Information

| Catalog Number | Catalog Description |
|--|---|
| 05394341001 | MS 200 Microarray Scanner (includes one MS 200 Slide Magazine and 3 individual licenses for NimbleScan and SignalMap software*) |
| The following are included with the purchase of an MS 200: | |
| 05394325001 | MS Control Unit |
| 05394333001 | MS 200 Software |
| 05394309001 | MS 200 Operator's Manual |
| The following accessory can be ordered separately: | |
| Catalog Number | Catalog Description |
| 05471478001 | MS 200 Slide Magazine |

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www.nimblegen.com/arraysupport

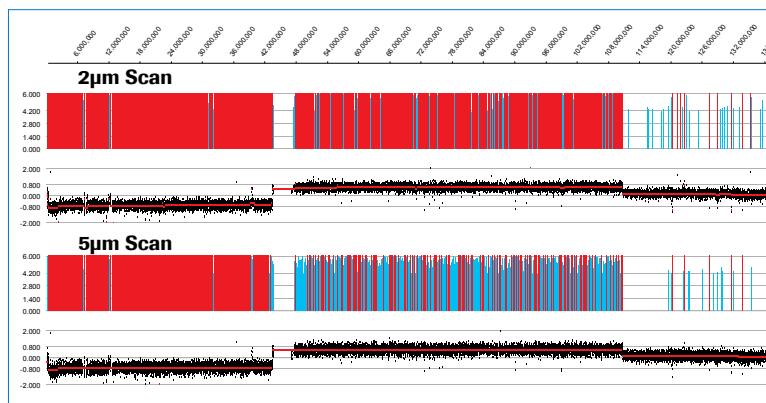


Figure 4: CGH Analysis of a Burkitt Lymphoma Sample. Chromosomal copy number gains and losses were identified in a Burkitt Lymphoma research sample referenced against normal genomic DNA using a NimbleGen Human CGH 3x720K Whole-Genome Tiling v3.0 array. A large deletion (from ~8kb - 43Mb) and amplification (from ~47Mb - 110Mb) in chromosome 8, detected by scanning at either 2µm or 5µm resolution, as indicated. The red and blue bars indicate a signal-to-noise ratio of > 6 (red bars) or less than 6 (blue bars). Note that the 2µm scan indicates better signal-to-noise ratios (indicated by more red bars), especially in the region of copy number amplification.



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*NimbleScan and SignalMap software are available from Roche NimbleGen.



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