

University Health Network Microarray Centre launches Illumina iScan System for gene expression and miRNA profiling

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Toronto, ON: The University Health Network Microarray Centre (UHNMAC) has launched its gene expression and miRNA profiling service using the Illumina iScan System following a series of successful validation experiments.

Illumina's BeadChip technology is based on 3-micron silica beads that self assemble in microwells on silica slides (BeadChips). Each bead is covered with thousands of copies of a specific 50-mer oligonucleotide that acts as a capture sequence. The high feature density of BeadChips enables low sample input and the high feature redundancy (15-30x) allows for high-confidence results.

The Illumina one-colour gene expression protocol involves *in vitro* transcription (IVT) amplification and during IVT, biotin-labelled nucleotides are incorporated. Subsequent steps of the protocol include array hybridisation, washing, blocking, and streptavidin-Cy3 staining. Several types of human, mouse, and rat arrays are available, with service prices ranging from \$100 to \$330 per sample (including reagents, array, and quality assurance).

The Human and Mouse miRNA Expression Profiling Panels are highly specific and allow for single-nucleotide discrimination between related miRNA species. Pricing starts at \$250 per sample (12 arrays per slide).

The UHNMAC intends to introduce DNA methylation, SNP, and CNV applications using Illumina's Infinium assays in the near future. Please contact illumina@microarrays.ca if you have any questions about this service or require a service quotation.

The UHNMAC (www.microarrays.ca) was established in 1998 and worked with a local engineering company to develop the arrayer robot that is now sold commercially as the BioRad VersArray ChipWriter Pro. Since 2000, the UHNMAC has provided arrays, training and support to over 700 labs in 27 different countries and over 100,000 arrays have been printed and distributed. UHNMAC offers Human, Mouse, and Yeast cDNA microarrays, Human and Mouse CpG Island microarrays, and, due to our collaboration with SLRIMF, also prints Mouse, Zebrafish, *C. elegans*, focused Human and Yeast oligonucleotide microarrays. Genomic Services (including Expression Profiling, CHIP-on-Chip, Differential Methylation, Array CGH) on Affymetrix, Agilent, Illumina, and cDNA microarray platforms, data analysis, and custom microarray and clone production are also available. Neil Winegarten is the Head of Operations at the UHNMAC, located on the 9th floor of the Toronto Medical Discovery Tower (9-301), MaRS, 101 College Street in Toronto.