



The Illumina BeadArray Platform WWW.ILLUMINA.COM

BEA has now upgraded the microarray facility to include the Illumina bead array platform which is a complete solution for RNA- and DNA-based genetic analysis applications. The system covers a wide range of multiplexing and sample throughput options including the Infinium genotyping assay, whole genome expression analysis and epigenetic assays like methylation and micro RNA analysis.

The Illumina expression beadarray probes are bound to beads and randomly distributed onto arrays. Each array is individual and provided with a decoding sequence specifying the position of each probe. For the moment expression analysis is possible with human, mouse and rat arrays containing a very high feature redundancy. Multi sample formats provide effective handling and lower sample pricing allowing bigger experimental scale than other systems. The sample requirement for the Ambion amplification and labelling protocol that we use are approximately between **100ng -1 μ g** (V_{max} - 10ul) of pure total RNA.

The Illumina methylation analysis provides a system to quantify methylation levels at specific loci within the genome. The Illumina HumanMethylationV27 beadarrays measure promotor methylation level at 27,578 CpG dinucleotides in 14,495 genes. The assay involves a bisulfite conversion and amplification step before hybridisation. The bisulfite converted WGA-DNA products are next hybridized to the array which contain both methylation specific probes or non-methylation specific probes. Hybridization is then followed by a single base extension for visualisation with the Illumina scanner. The input requirement for this method is **500ng** of pure DNA (V_{max} - 45ul).

Prices: Including sample handling, reagents, arrays and initial analysis.

	Price/sample	Minimum # samples
Expression WG6 -Human/Mouse	2600	12
	2400	48
Expression HT12-Human	2200	24
	1900	48
Expression Ref8-Human/Mouse/Rat	2200	16
	1900	48
Methylation, Including bisulfite conversion.	3900	24
	3600	48
	3400	96
Genotyping Infinium 610-quad	5000	16
	4800	48
	4600	96
Genotyping Infinium-1-M-Duo	7400	48
	7200	96

