

NimbleGen Eukaryotic Gene Expression HD2 12-Plex Array Delivery

NimbleGen HD2 12-plex (12x135K) arrays for gene expression analysis enable you to conveniently and simultaneously hybridize 12 independent samples on each slide. These multiplex arrays offer the most cost-effective approach to gene expression analysis, without compromising information content or data quality. Like our 385K and 4x72K arrays, these 12x135K arrays are available in a broad range of whole-genome catalog designs or custom design arrays tailored to your specific experimental goals.

Advantages

- Accurately analyze 12 samples simultaneously on a single slide.
- Achieve high specificity, sensitivity, and reproducibility with 60mer oligonucleotide probes.
- Utilize 135,000 features on each array to include multiple probes per target:
 - Complete coverage of a transcriptome
 - Increased accuracy with multiple probes per target
- Take advantage of catalog designs based on the most current whole-genome builds for a variety of organisms (Table 1).
- Customize array content for any available, annotated genome.
- Start with as little as 200ng RNA (Figure 1).

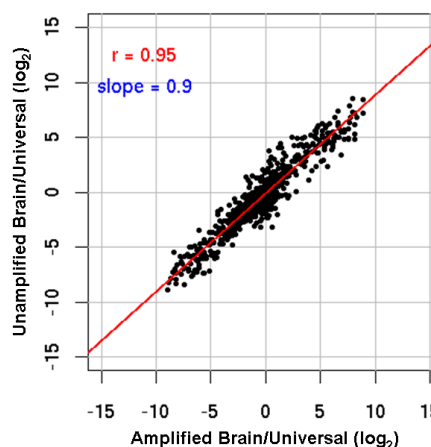


Figure 1: Reproducible Data Using Amplified RNA. Results show a high concordance between data obtained using unamplified RNA (10µg) versus amplified RNA (200ng, using Ambion MessageAmp kit) hybridized to NimbleGen Human Gene Expression 12x135K microarrays.

Table 1: NimbleGen Eukaryotic Gene Expression 12x135K Catalog Designs

Catalog Number	Organism	Sequence Source	Target Genes	Probes per Target Gene	Replicate Probe Sets per Array
A6484-00-01	Human	NCBI Build 36 (hg18)	44,049	3	1
A6485-00-01	Mouse	NCBI Build 37 (mm8)	42,576	3	1
A6486-00-01	Rat	Ensembl RGSC 3.4	26,419	5	1
A7239-00-01	<i>A. thaliana</i>	TAIR 6.0	30,380	4	1
A7237-00-01	<i>C. elegans</i>	Wormbase WS160	23,945	5	1
A7238-00-01	<i>D. melanogaster</i>	Flybase DM4.3	15,595	8	1
A7236-00-01	<i>S. cerevisiae</i>	NCBI Build October 2003	5,735	11	2
A7235-00-01	<i>S. pombe</i>	NCBI Build June 2005	4,976	12	2

NimbleGen Gene Expression 12x135K Microarray Performance

The superior quality of gene expression data obtained with NimbleGen Gene Expression 12x135K arrays was demonstrated using MAQC reference samples (*Nature Biotechnology*, 2006, 24:1151) hybridized to human gene expression whole-genome arrays. The sensitivity of the arrays is demonstrated by the wide signal dynamic range (\log_2 of 4 - 16, Figure 2), the reproducibility is demonstrated by the high inter-array correlations ($r^2 = 0.98$ or higher, Figure 3), and the accuracy is demonstrated by the high concordance with TaqMan® data ($r = 0.92$, Figure 4).

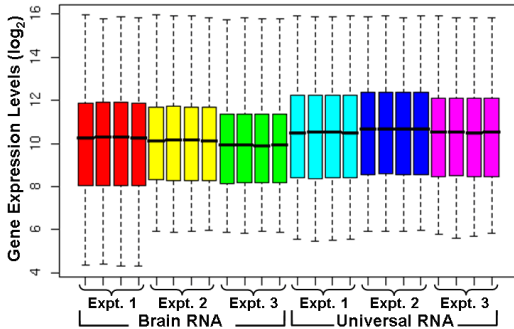


Figure 2: Sensitivity. Human brain and universal RNA were analyzed on NimbleGen Human Gene Expression 12x135K microarrays (4 technical replicates per sample). High sensitivity is demonstrated by the wide dynamic range (\log_2 of 4 - 16) of gene expression values on each array.

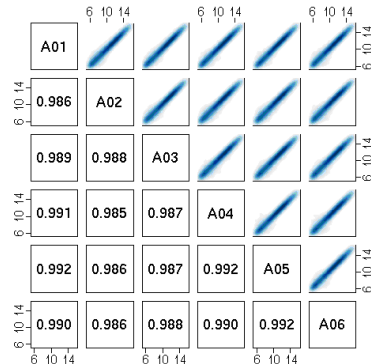


Figure 3: Reproducibility. Six technical replicates of human brain RNA were hybridized to NimbleGen Human Gene Expression 12 x135K microarrays. High inter-array correlations (mean $r^2 = 0.99$) are shown in the lower left panels and pairwise scatter plots of gene expression values (\log_2) are shown in the upper right panels.

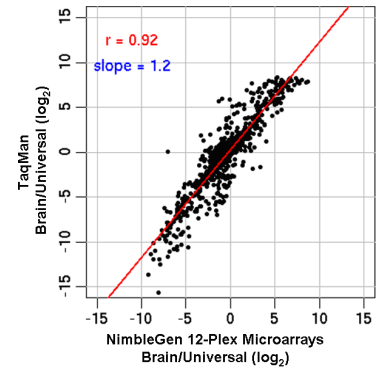
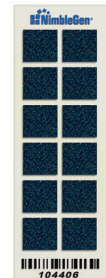


Figure 4: Accuracy. The ratio of brain to universal expression values (\log_2) from NimbleGen Human Gene Expression 12 x135K microarrays were compared to TaqMan data obtained from the MAQC report. Results show a high concordance ($r = 0.92$) in gene expression levels between NimbleGen 12 x135K arrays and TaqMan data. Each point represents one of the 961 genes for which TaqMan values are available.

NimbleGen Gene Expression 12x135K Microarray Specifications

Total probes	12 x 135,000
Probe length	60mer
Probes per target gene	3 - 12, varies depending on transcriptome size
Replicate probe sets per array	1 - 2, varies depending on transcriptome size
Feature size	13 μ m x 13 μ m
Array size	8.9mm x 6.5m
Slide size	1" x 3" (25mm x 76mm) glass



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