



Affordable
Quality, Performance, Results

Human Whole Genome OneArray® v5 DNA Microarray

- Updated Probe Content **NEW**
- Open Platform Compatibility with Common Array Scanners
- High Correlation with Real-Time PCR
- Excellent Array Consistency using Non-Contact ThermoJet Printing
- Affordable Service Packages Available
- 100% Satisfaction Guarantee¹

Genome Content

Each microarray contains 30,275 oligonucleotides: 29,187 human genome probes + 1,088 experimental control probes.

Each 60-mer oligo probe is designed to hybridize to a specific target gene described in the current public domain content validated by the Human Genome Sequencing Project.

Table 1 (right) provides a summary of the probe content of Human OneArray. The probe set annotation is updated approximately every 6 months.

The most up-to-date annotation, GAL files, and probe sequences can be obtained at www.OneArray.com.

Table 1: Human OneArray Probe Content	
Source	Probe Number
Total Probes ²	30,275
RefSeq release 38 Ensembl release 56	29,187
Control Probes	1,088
Oligonucleotide probe length	60-mer

Human OneArray Control Features

There are 1,088 control probes built into Human OneArray that monitor the sample quality and hybridization process.

These control probes provide valuable information to ensure experiments are done correctly, resulting in higher quality results for analysis.

Figure A, right, shows the control feature data analysis of OneArray microarrays using our free SimpleMeasure software.

For more detailed control probe information, visit www.OneArray.com.

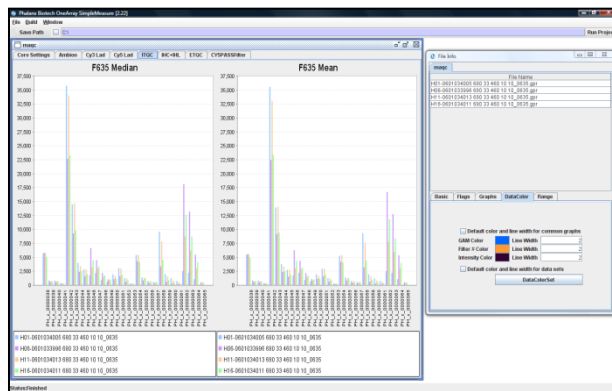


Figure A. SimpleMeasure Program. Java-based utility to extract control features to monitor sample quality.

1. Please inquire for details.

2. Human OneArray® is guaranteed to print 98% or more of the total probe content.

How Does OneArray Compare to the Leading Microarray Platforms?

OneArray Data Quality

Human OneArray has been tested under the same experimental conditions as those used in the original Microarray Quality Control (MAQC) project.³ The FDA-led project was initiated to, in part, provide a standard by which all microarray platforms could be compared. Four standard RNAs were tested on each platform and lists of differentially expressed genes were generated according to the manufacturers' protocols. The data show OneArray yields high quality data that is comparable to the leading commercial platforms included in the original study.

Repeatability of OneArray is Comparable to Other Platforms. The MAQC project evaluated repeatability and reproducibility of several platforms by measuring the coefficient of variation (CV) of the signal magnitude values for intra-site replicates. Human OneArray shows CV values <8%, showing excellent array-to-array consistency comparable to other platforms (Figure B).

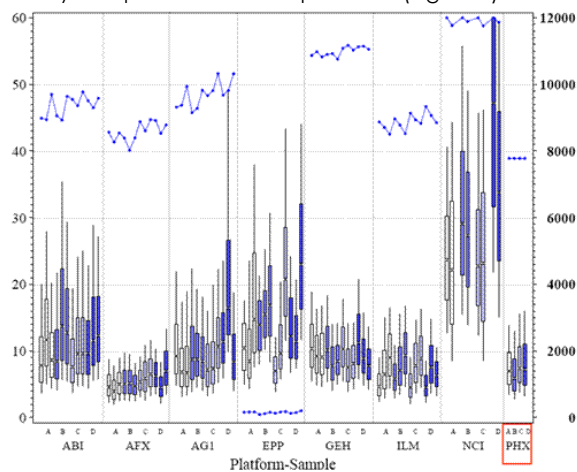


Figure B. Repeatability of Microarray Platforms. ABI=Applied Biosystems, AFX=Affymetrix, AGI=Agilent, EPP=Eppendorf, GEH=GE Healthcare, ILM=Illumina, NCI=National Cancer Institute, PHX=Phalanx Biotech (red box).

OneArray Detects the Same Gene Expression as Other Platforms.

One of the goals of the MAQC study was to evaluate interplatform data concordance by determining whether differences between two samples can be detected on each microarray platform. Figure C shows the interplatform data concordance of differentially expressed genes using two standard RNAs as the samples.⁴

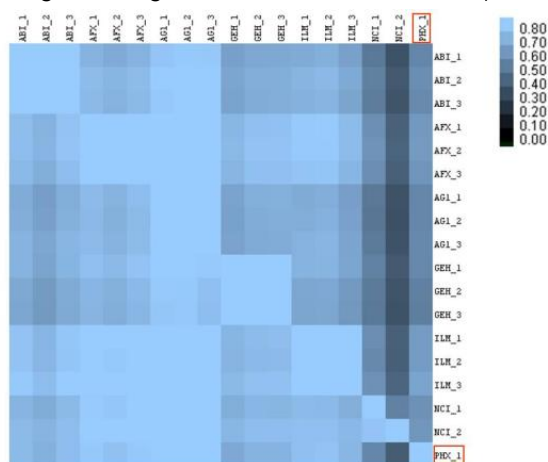


Figure C. Comparison of Gene List Overlap. Comparison of the gene lists from all platforms tested (numbers following the platform abbreviation indicate independent test sites). Lighter colors indicate a higher degree of concordance.

OneArray Gene Coverage

OneArray gene coverage matches other long-oligonucleotide arrays, such as Agilent and Illumina. Comparisons from these platforms were evaluated with a probe annotation pipeline based on the whole genome as the reference set. Probes were assigned to 3 different categories based on their alignment to the genome. This analysis demonstrates the lack of correlation between increased probe density and greater interrogation power. As such, efficient design of probe sets has allowed the OneArray product line to offer gene coverage comparable to other commercially available arrays.

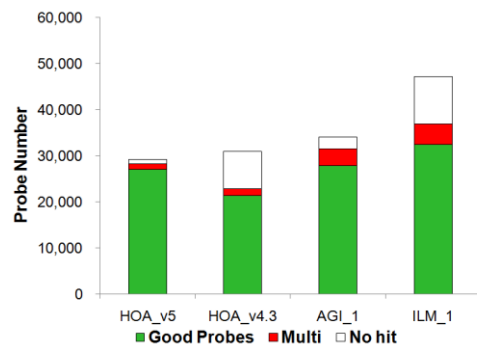


Figure D. Probe Set Breakdown. Probe set breakdown into three categories highlight HOA v5 as the most efficient design compared with Agilent and Illumina. Note: HOA v5 is comprised of the fewest multiple and no-hit probes.

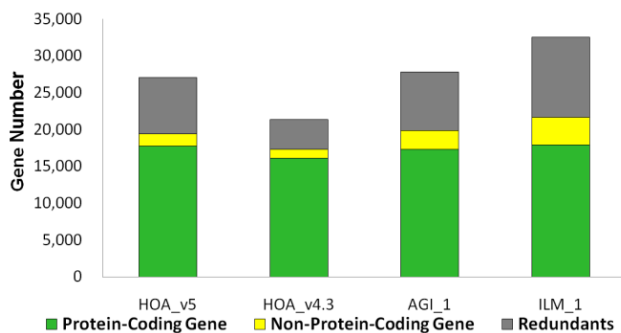


Figure E: Interrogation Power. HOA v5 matches Agilent and Illumina with respect to interrogation power.

3. MAQC Consortium (2006) *Nat Biotech* 24(9): 1151-1161. For more information on the MAQC Project, please visit <http://www.fda.gov/>. For a complete report of the performance of OneArray, please visit http://www.phalanxbiotech.com/Power/power_OA.html.

4. The two RNAs used for this comparison were Sample A, Stratagene Universal Human Reference RNA, and Sample B, Ambion Human Brain Reference RNA.