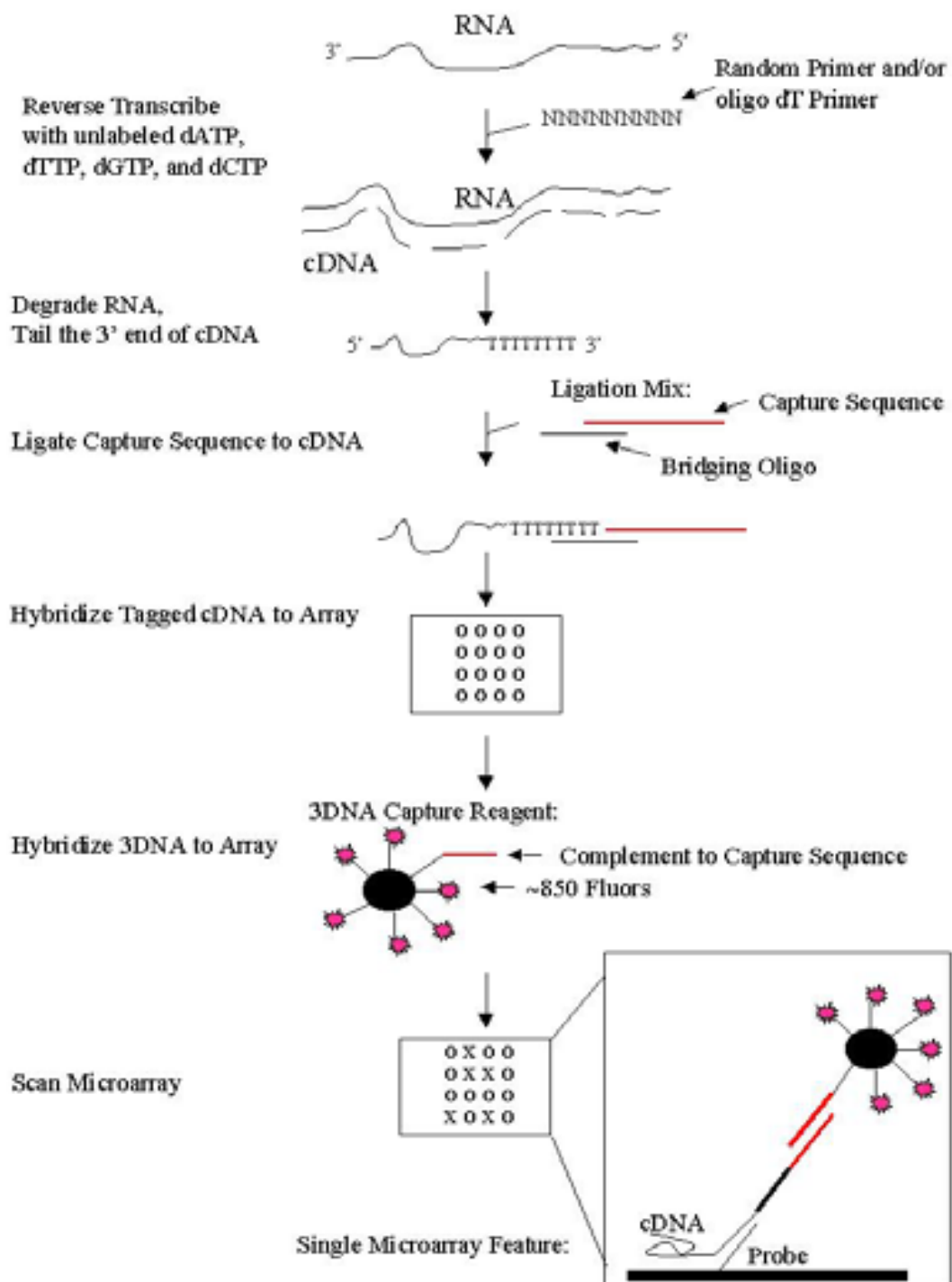


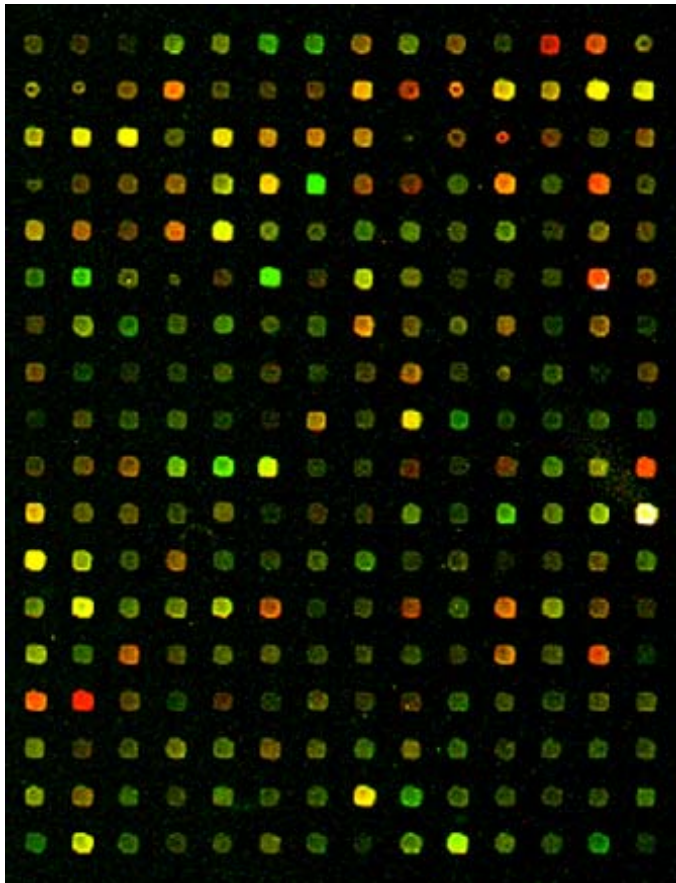
Array 900MPX

Data Set

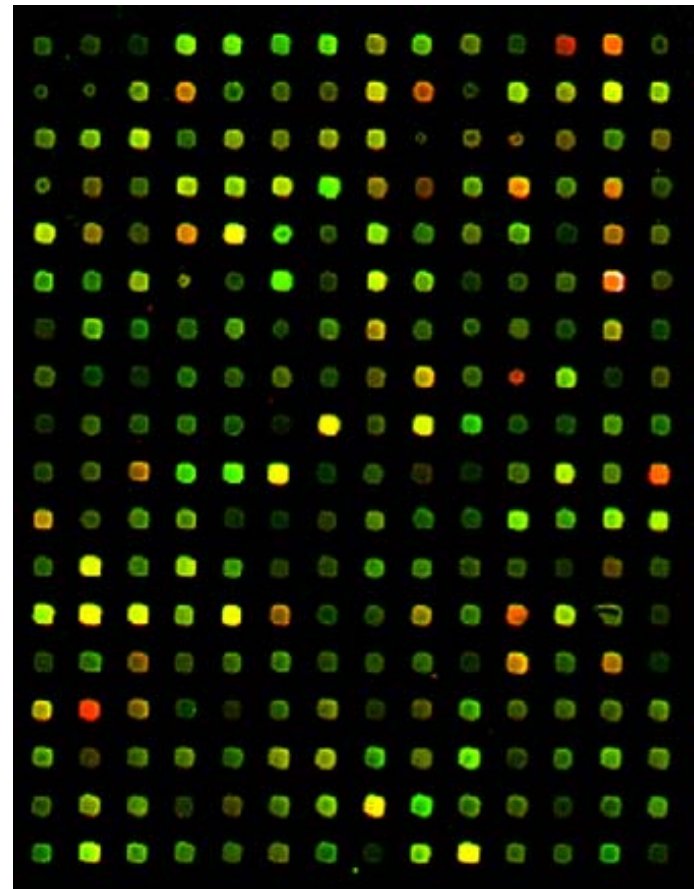


Comparison of Labeling Methods on Oligo Arrays

Random Prime
Array 900MPX
2 μg



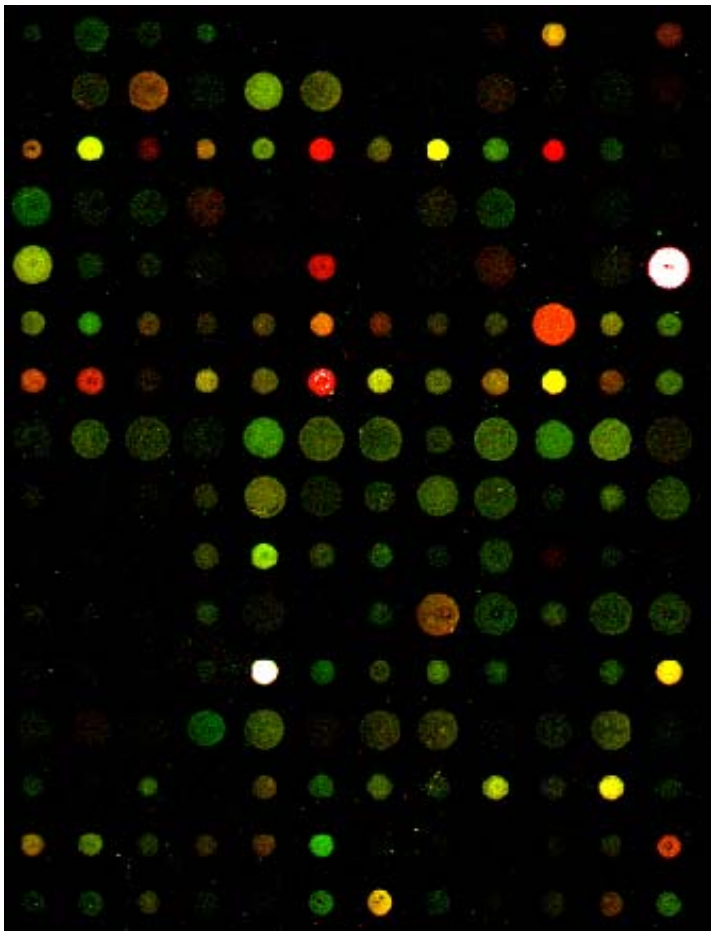
Random Prime
Direct Incorporation
15 μg



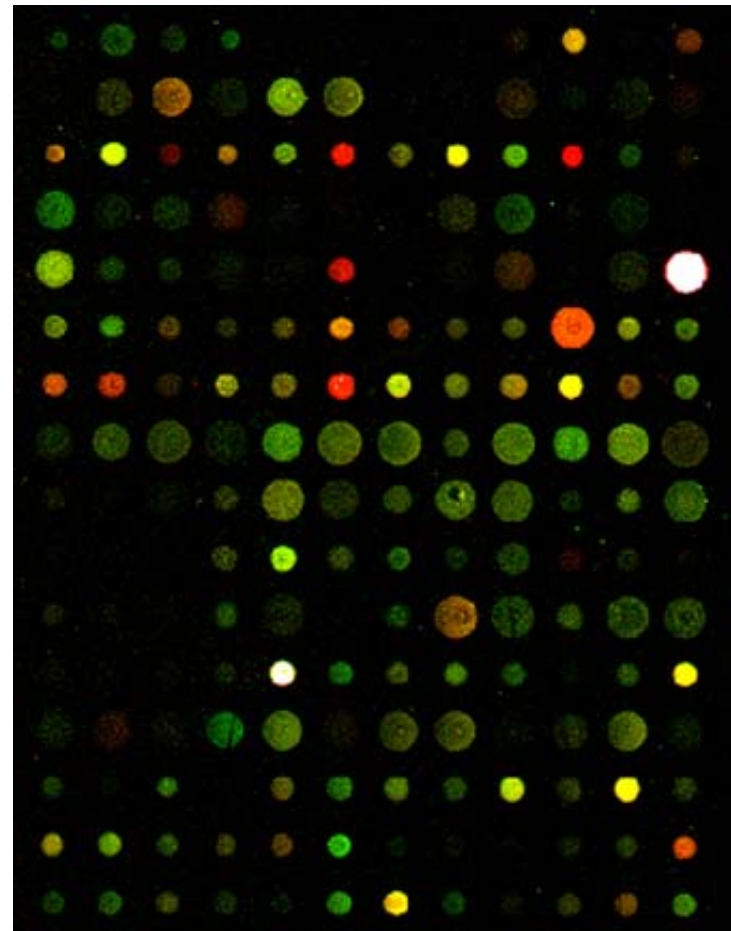
Reproducibility of Array 900MPX

Reproducibility of Array 900MPX:
Replicate Analysis on cDNA Arrays
2 μ g per channel; Cy3 rat brain vs Cy5 rat liver

Array 1

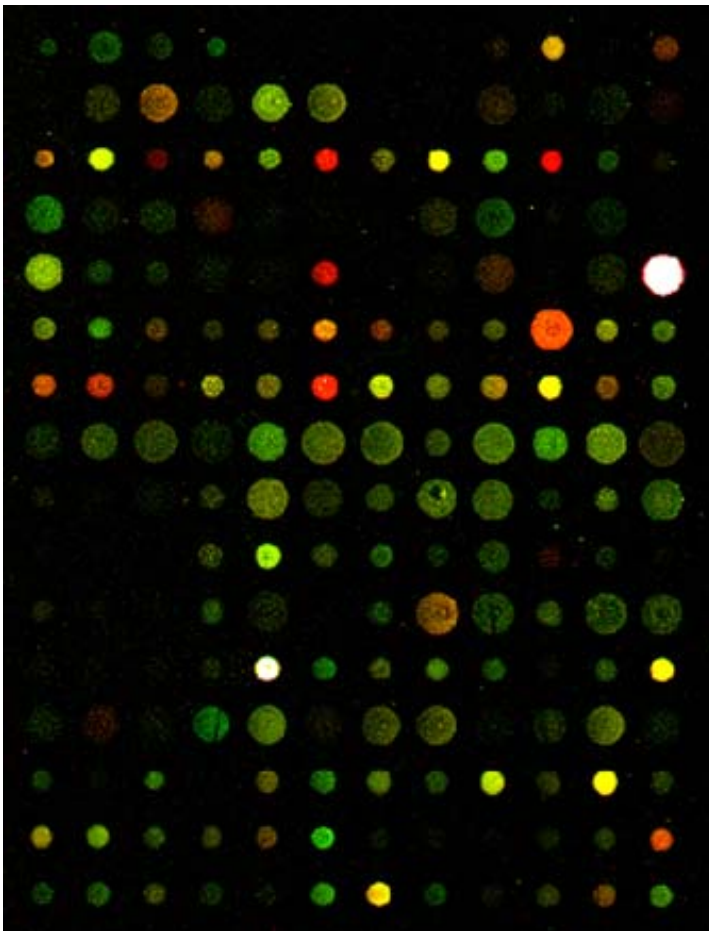


Array 2

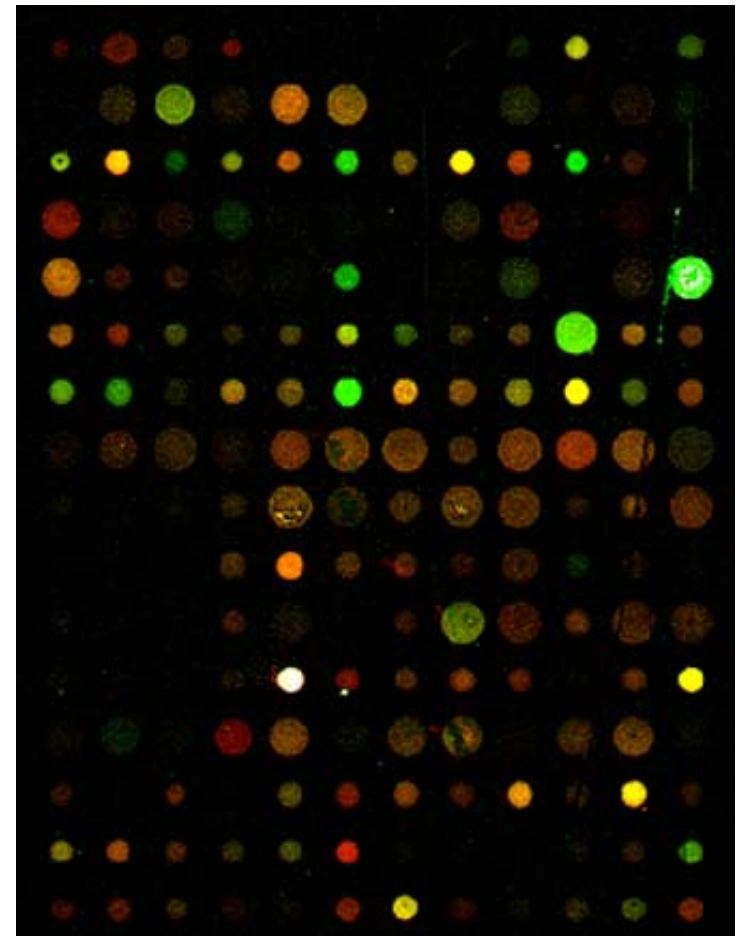


Reproducibility of Array 900MPX:
Dye Flip Analysis on cDNA Arrays
2 μ g per channel

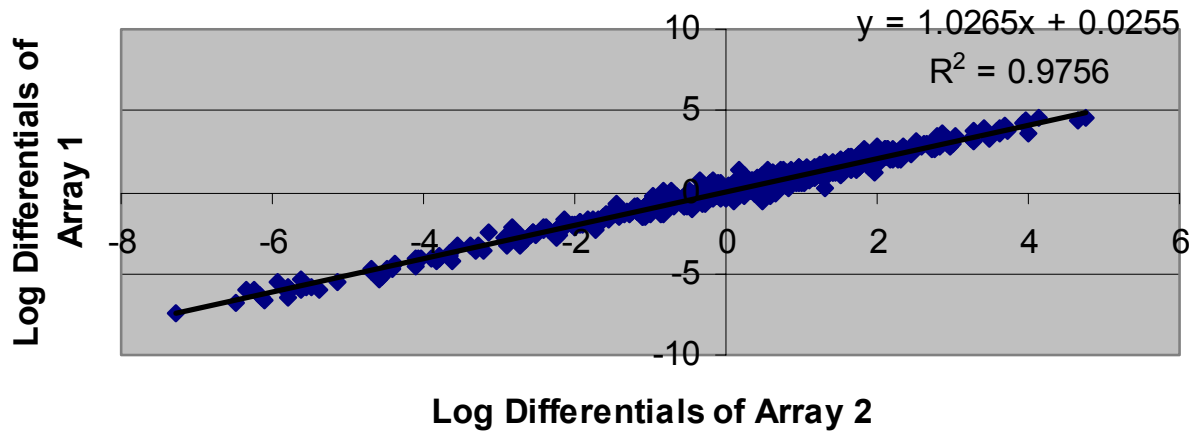
Cy3 rat brain vs Cy5
rat liver



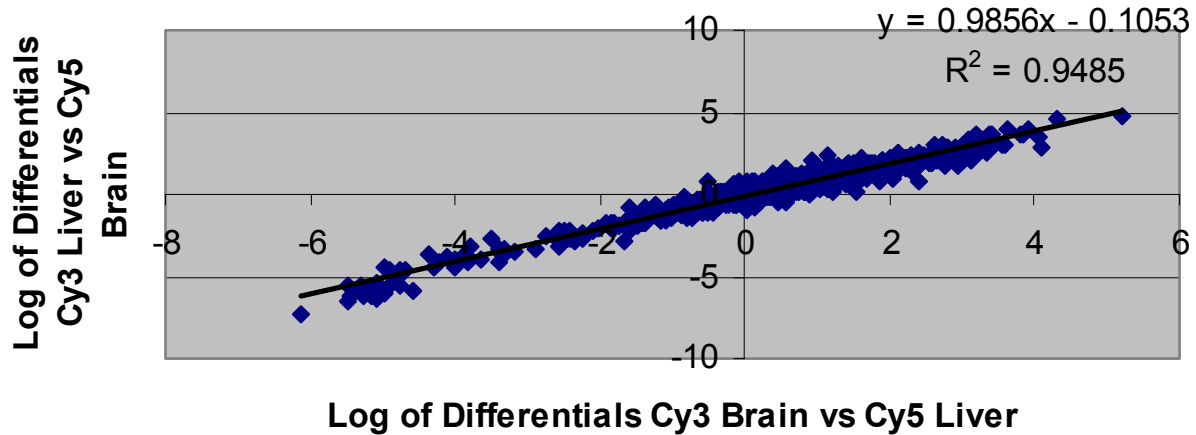
Cy3 rat liver vs Cy5 rat
brain



Correlation of Two Rat cDNA Arrays (Duplicate) Using the Array 900MPX Kit



Correlation of Two Rat cDNA Arrays (Dye Flip) Using the Array 900MPX Kit

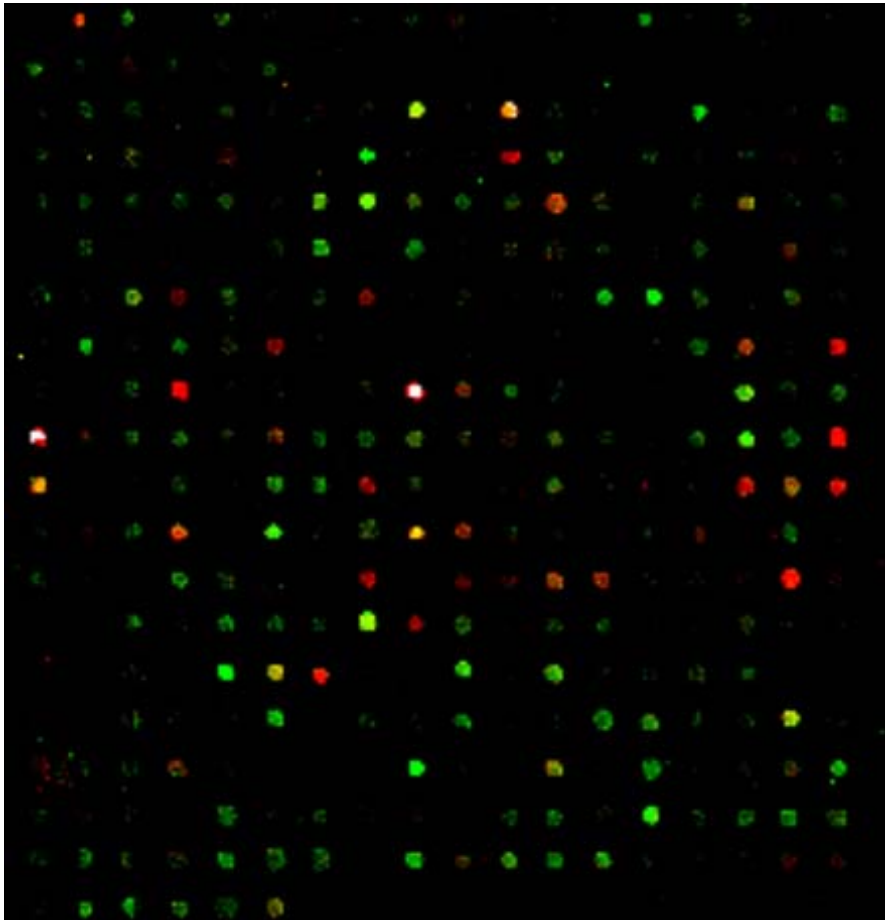


Reproducibility of Array 900MPX:

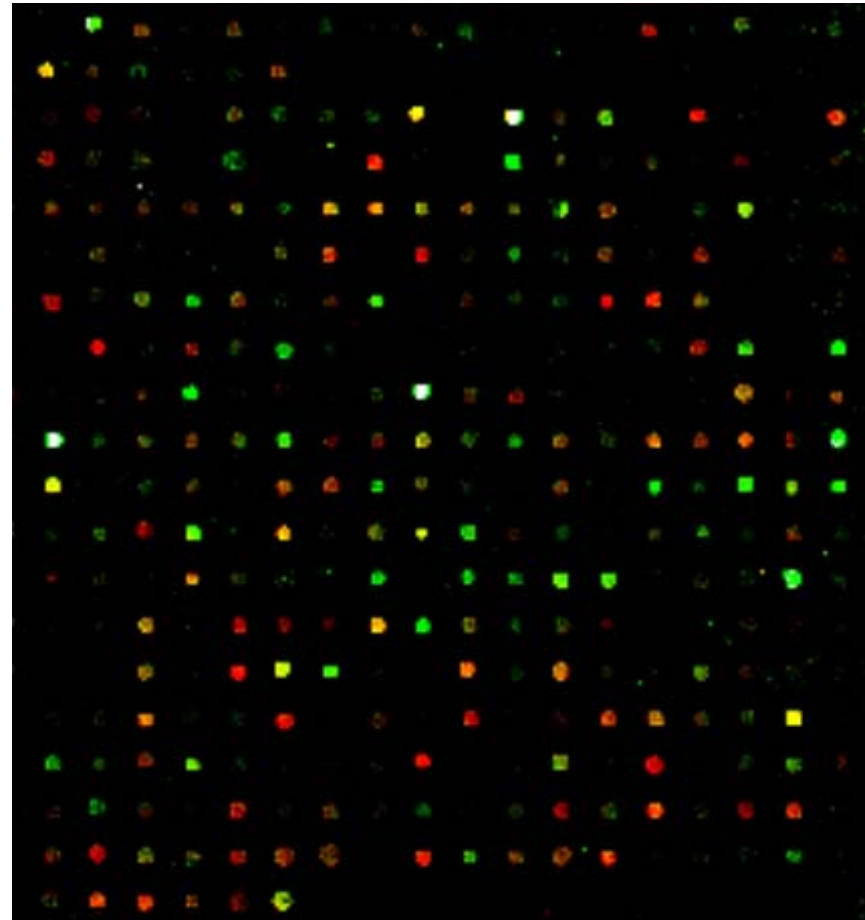
Dye Flip Analysis on Oligo Arrays from University of
Arkansas

1 μ g per channel

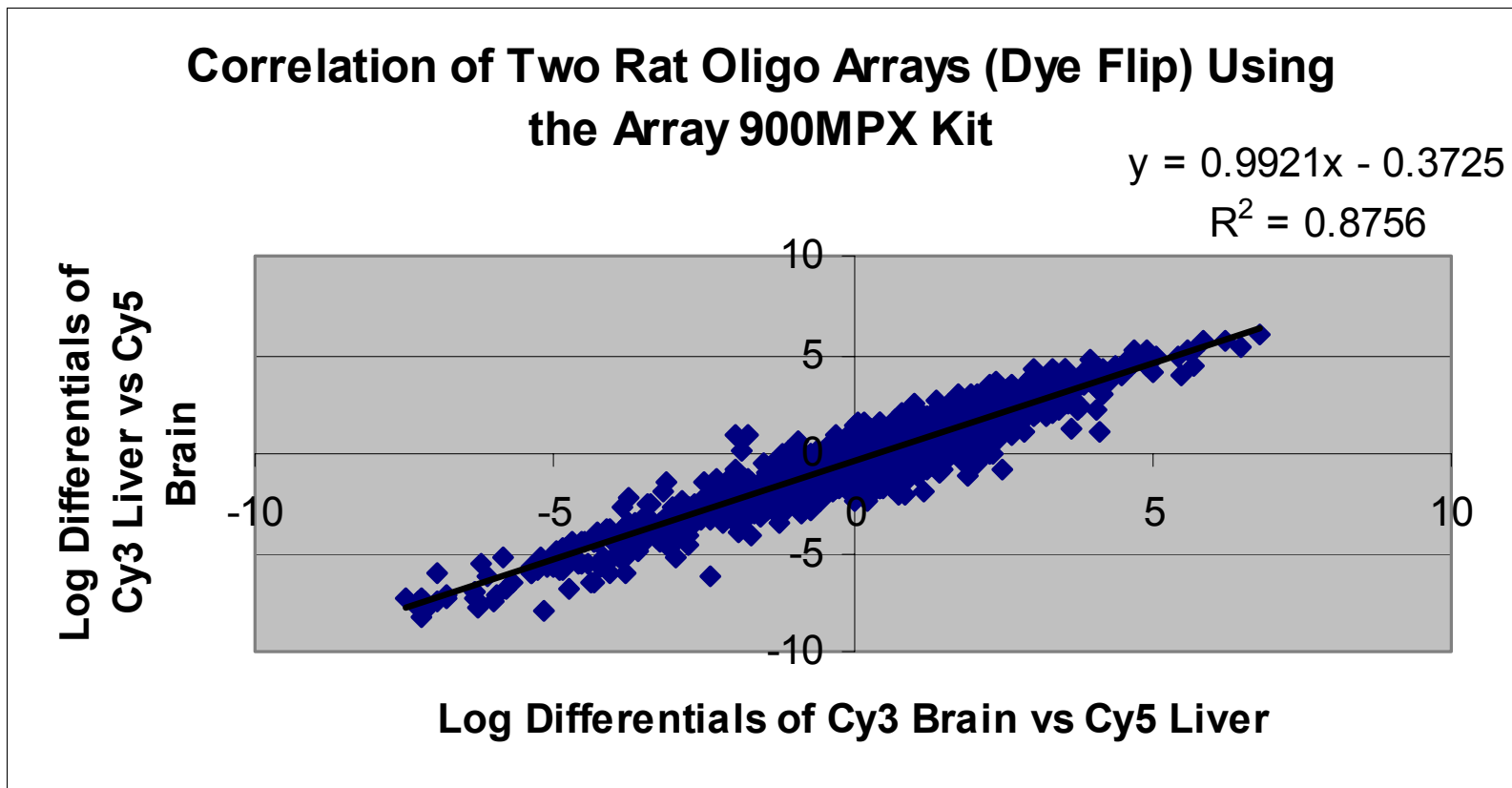
Cy3 rat brain vs Cy5 rat liver



Cy3 rat liver vs Cy5 rat brain



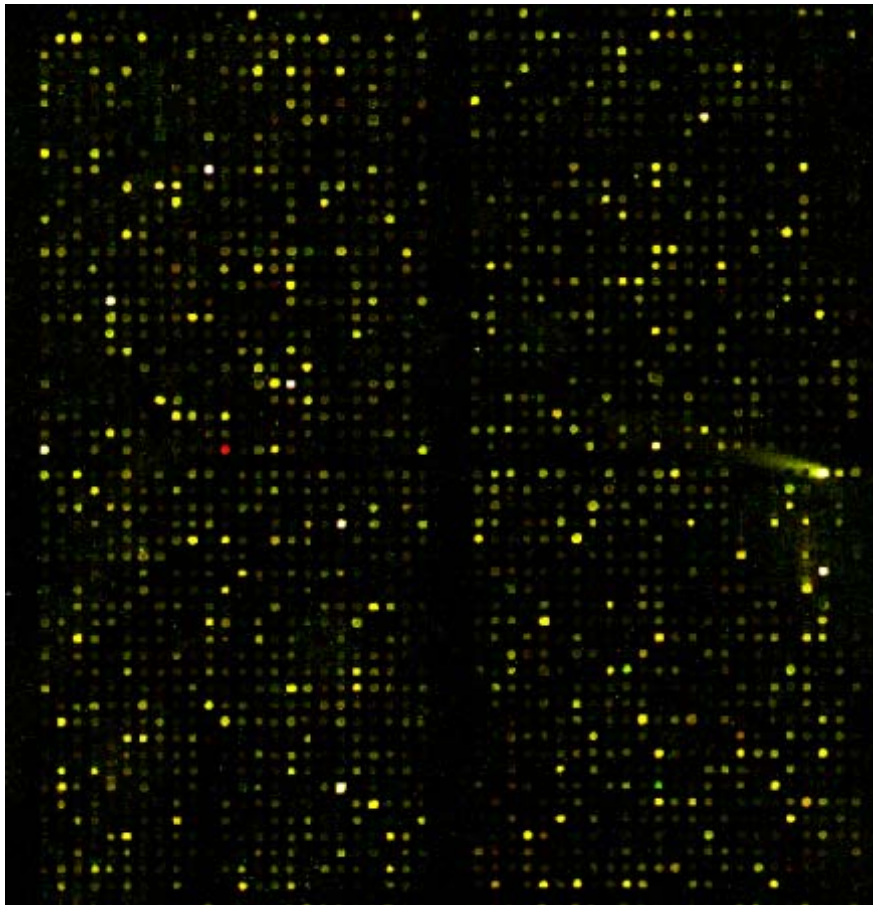
Reproducibility of Array 900MPX:
Dye Flip Analysis on Oligo Arrays from University of
Arkansas
1 μg per channel



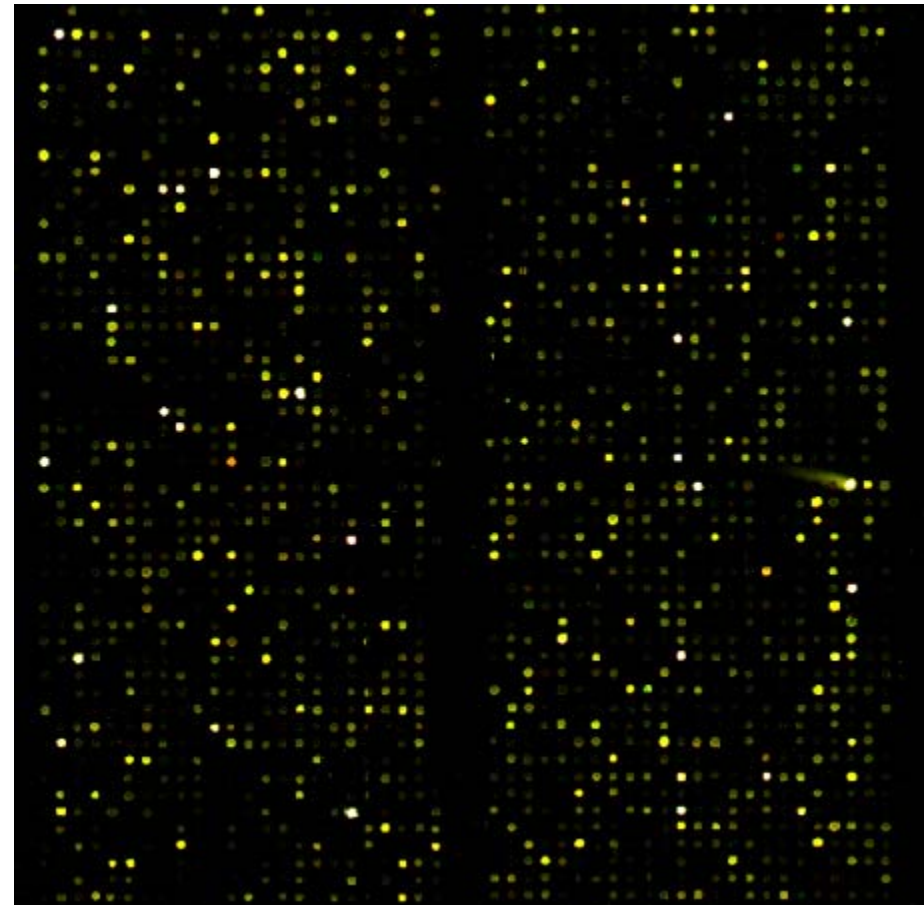
Reproducibility of Array 900MPX:

Replicate Same Sample Analysis on Oligo Arrays
1 μ g Human liver RNA in both channels

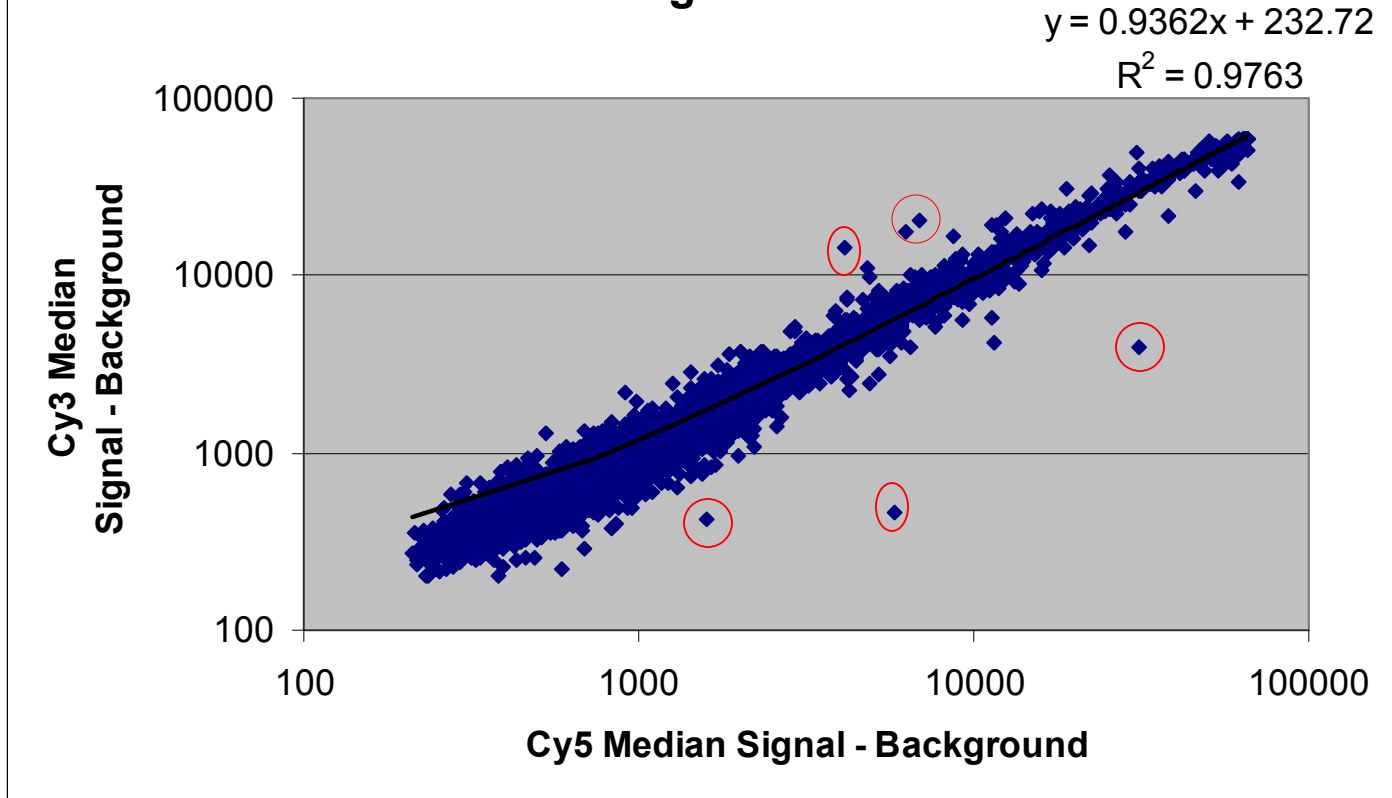
Array 1



Array 2



**Array 900MPX: Average of 2 Oligo Arrays
1ug Human Liver RNA in Both Channels
Log Plot**

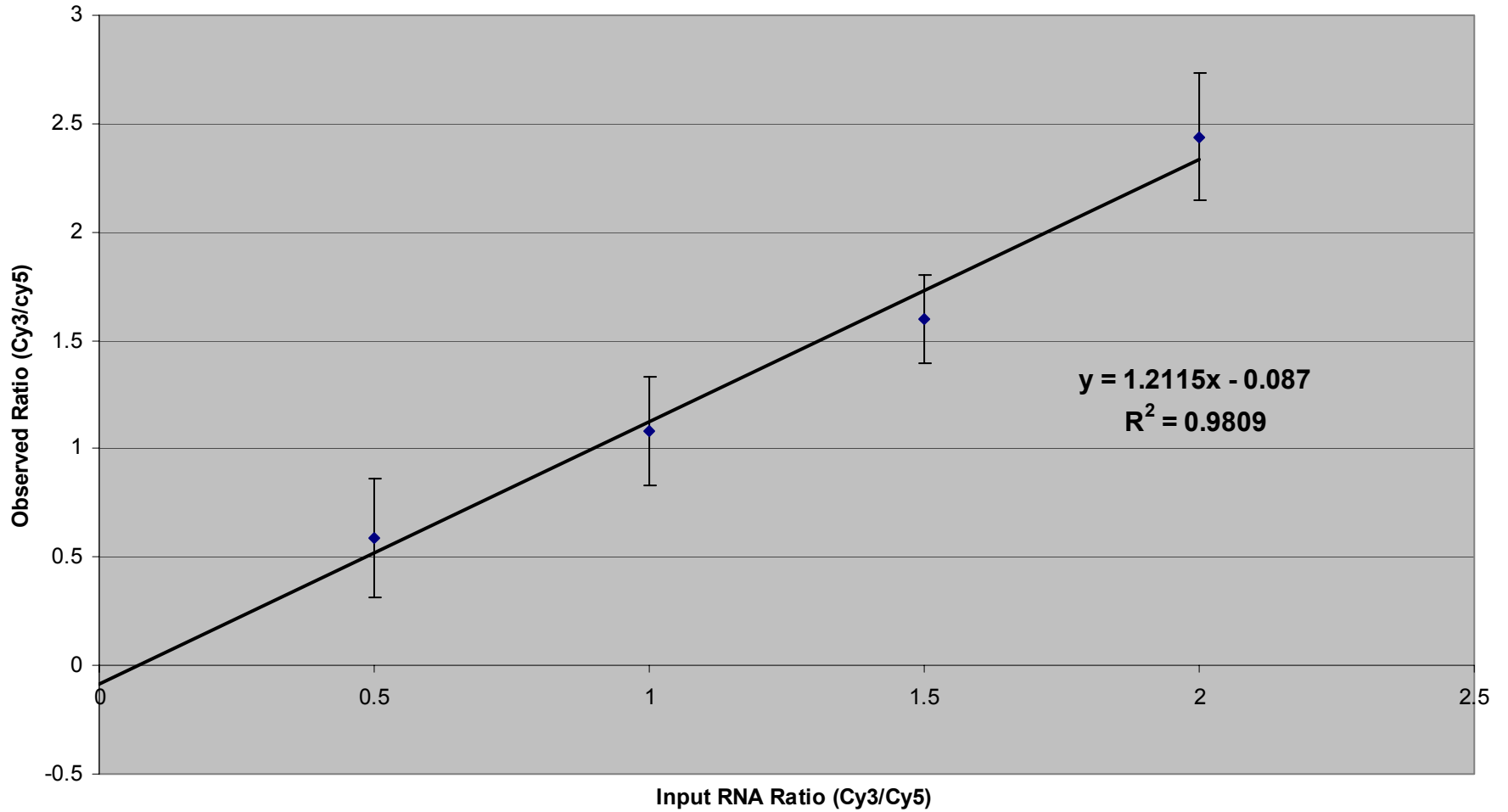


○ = Identified as false positives on an Oligo array

Features would be permanently marked for elimination from future data analysis

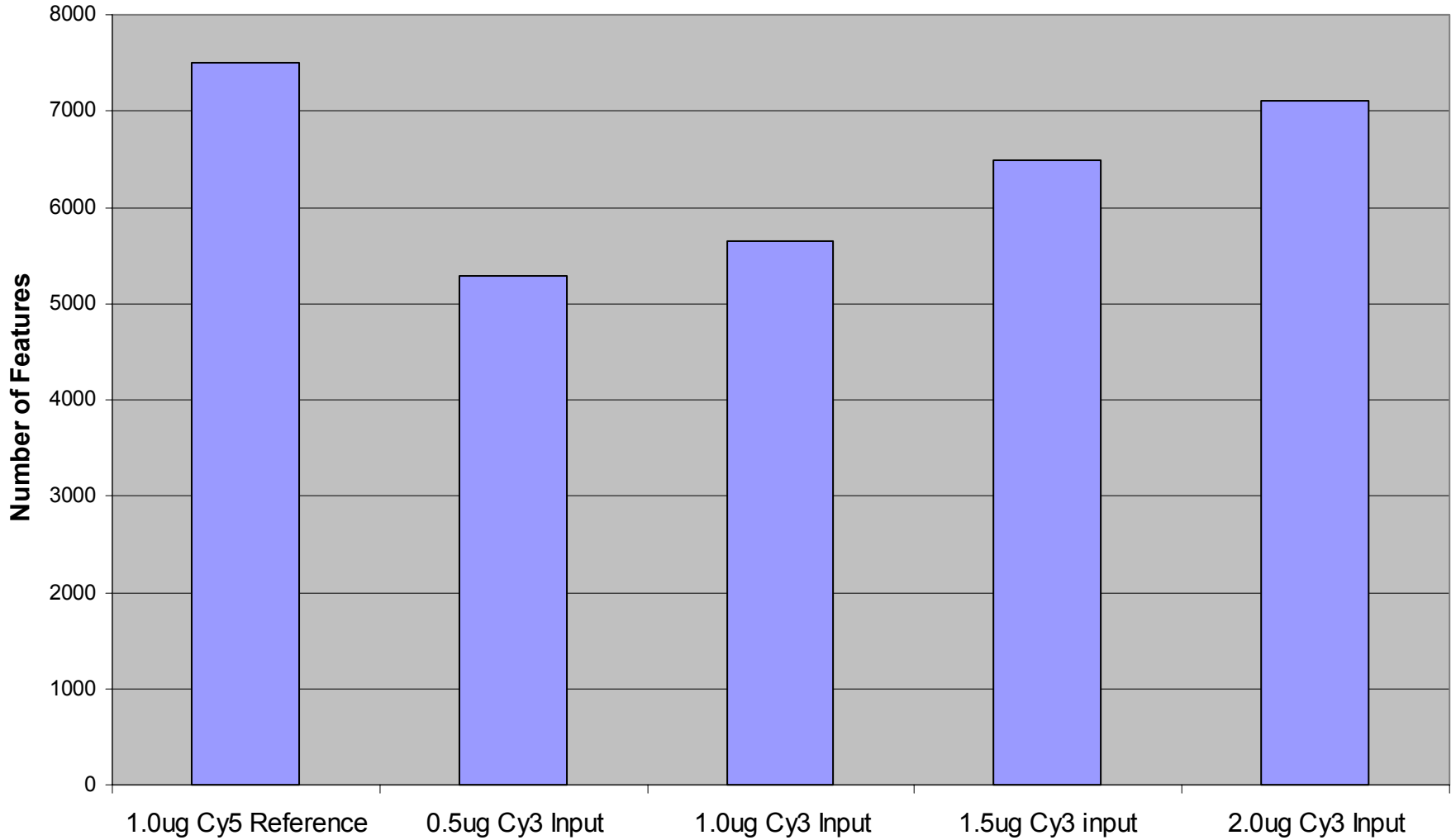
Linearity of Array 900MPX

Array 900 MPX RNA Titration
Input Total RNA Titrated from 0.5ug to 2.0ug in the Cy3 Channel
Total RNA Fixed at 1.0ug in the Cy5 Channel



Array 900 MPX RNA Titration

Data Represents the Number of Features 2.6 Fold Above the Median Background



Comparison of Two Genisphere Random Prime Kits

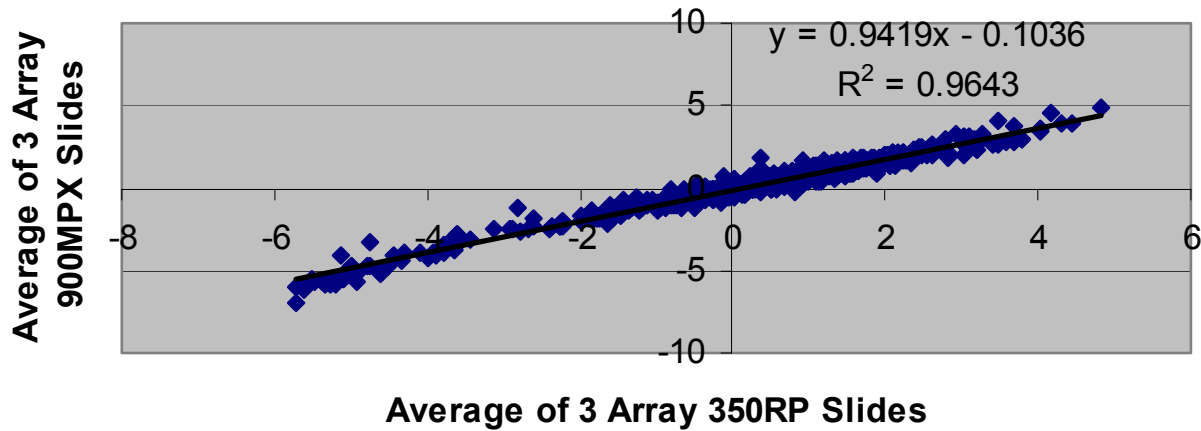
Array 350RP

- cDNA arrays only
- Random Primer only

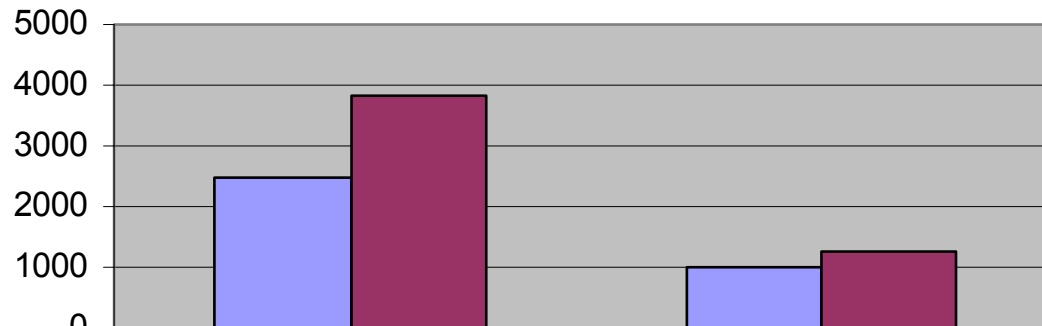
Array 900MPX

- cDNA and oligo arrays
- Random and dT Primers

Correlation of Differentials Using the Array 350RP and Array 900MPX Kits on Rat cDNA Arrays

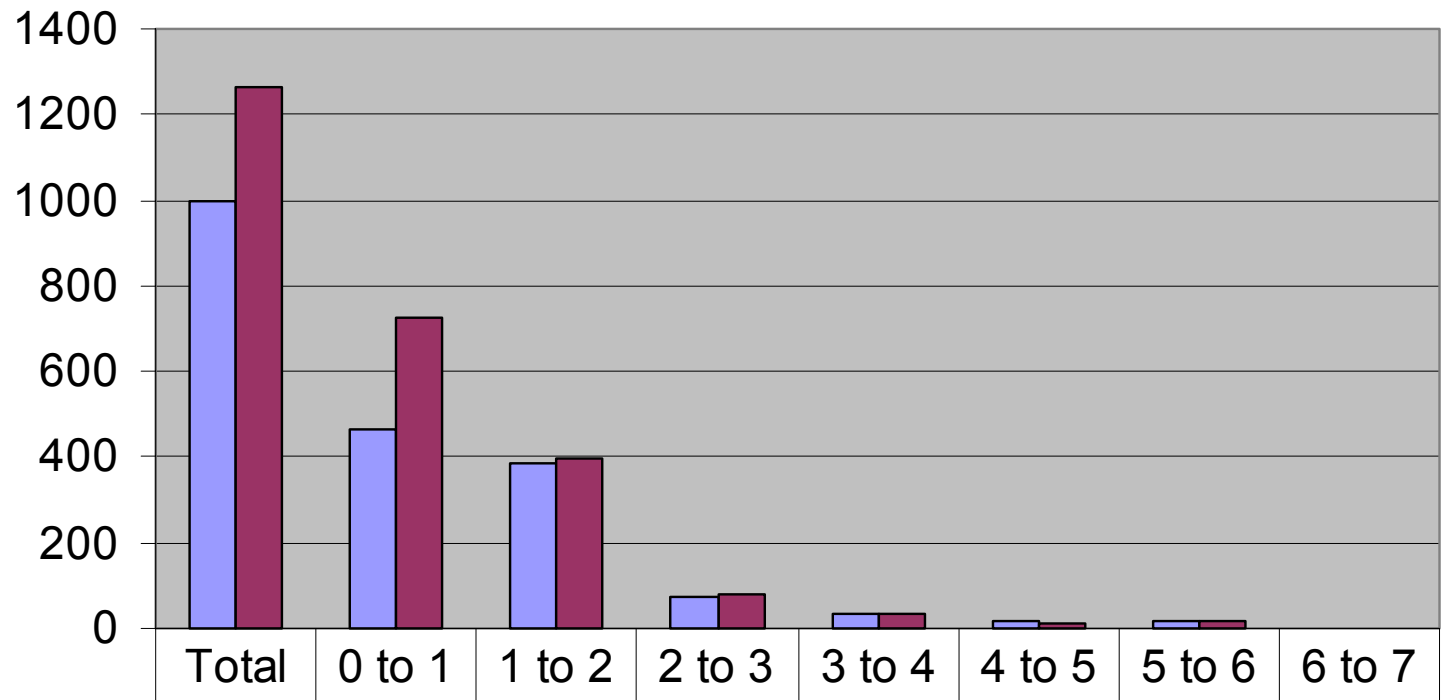


Array Signal Intensity (Average of Triplicate Rat cDNA Arrays)



■ Array 350RP	2467	997
■ Array 900MPX	3820	1266

Number of Features in Each Log of Differential (Average of Triplicate Rat cDNA Arrays)



Array 350RP	997	467	384	74	36	19	17	0
Array 900MPX	1266	727	394	80	33	14	16	2

Utility of the Array 900MPX Labeling Kit

Random, dT, or Random/dT Priming

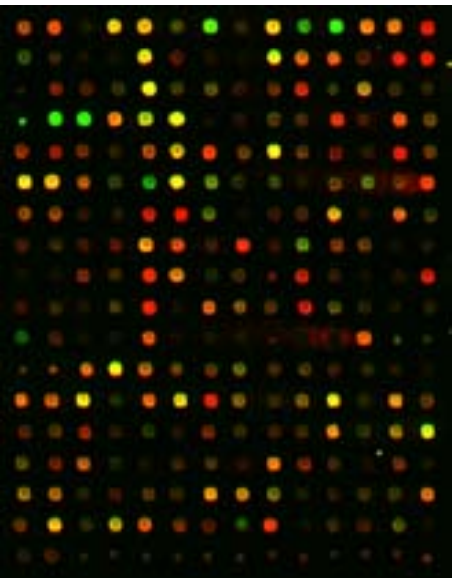
Intact and Degraded RNA Samples

Amplified RNA

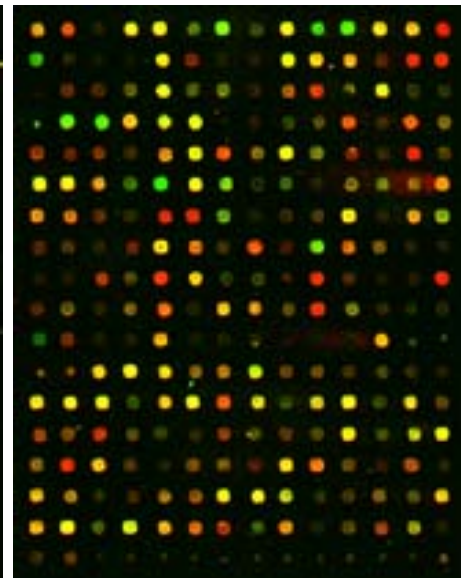
The Array 900MPX kit can be used with Random Primer, dT Primer, or both primers.

By adding dT Primer to the Random Primer, cDNA synthesized in the reverse transcription reaction will also contain sequences nearest the 3' end and will better represent and entire poly(A) message. Using these primers together results in a better correlation between the expression patterns generated independently by dT priming versus random priming of the same RNA samples.

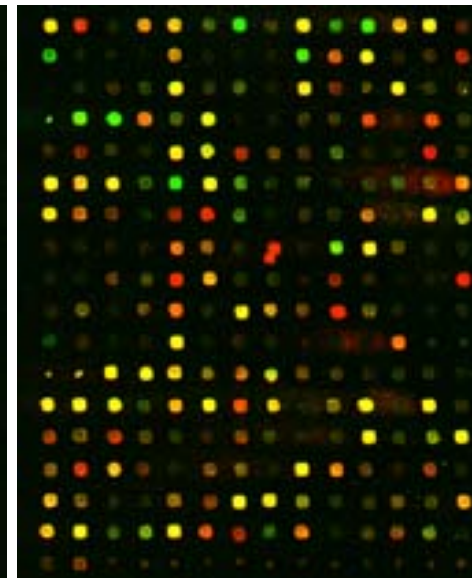
MPX: RP



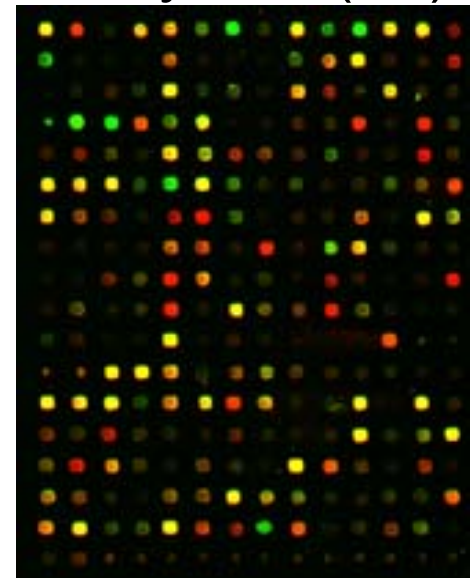
MPX: RP + dT



MPX: dT



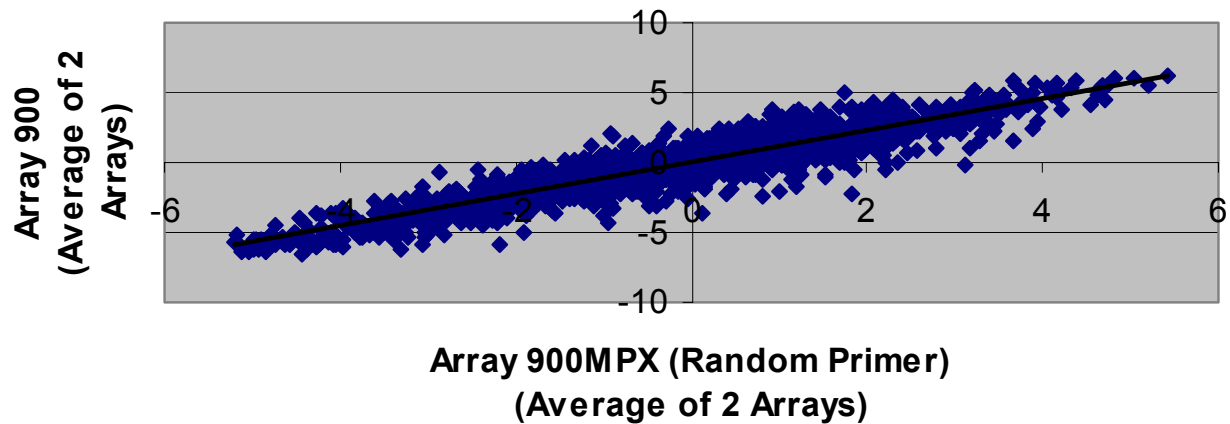
Array 900 (dT)



Oligo arrays hybridized with 100ng of rat brain (Cy5) and rat liver (Cy3) poly(A) RNA

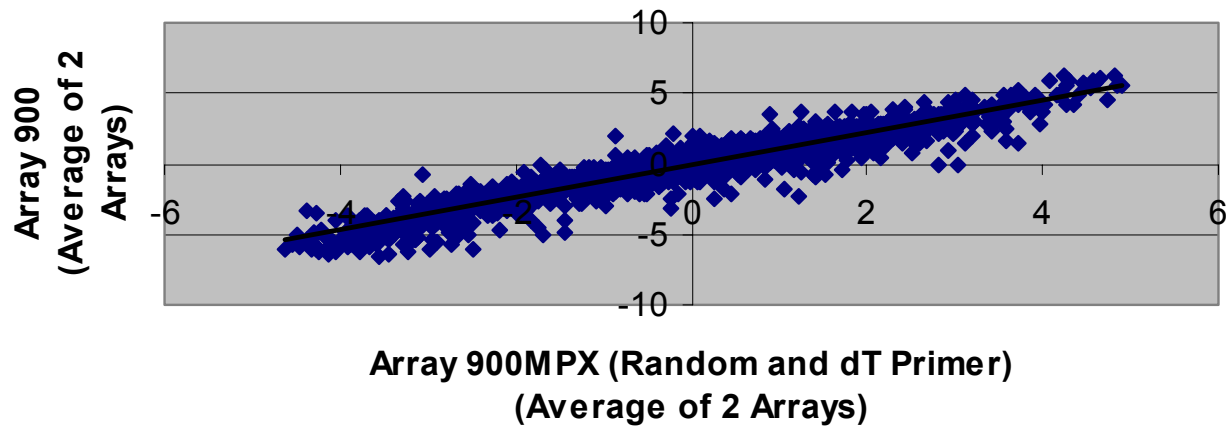
**Correlation of Array 900MPX
(Random Primer)
and Array 900 on Oligo Arrays**

$y = 1.1346x - 0.005$
 $R^2 = 0.8617$

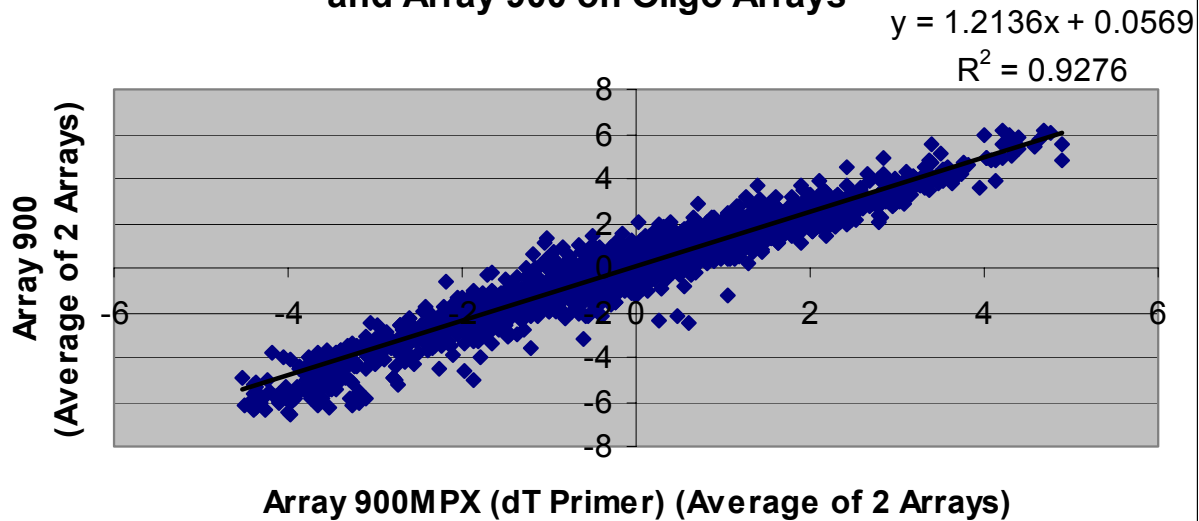


**Correlation of Array 900MPX
(Random and dT Primers)
and Array 900 on Oligo Arrays**

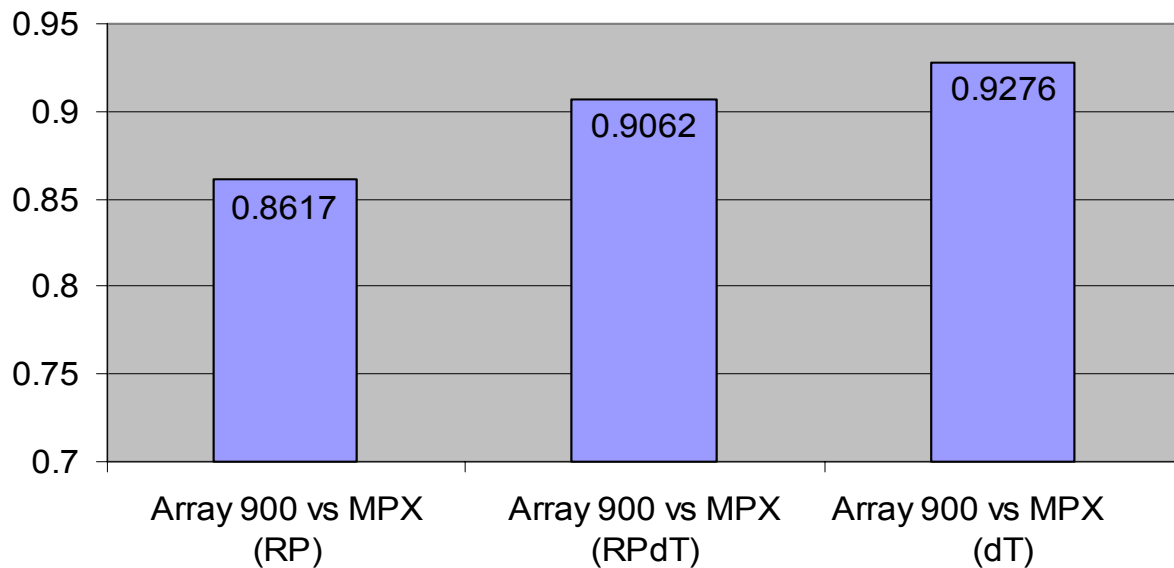
$y = 1.1532x - 0.0149$
 $R^2 = 0.9062$



Correlation of Array 900MPX (dT primer) and Array 900 on Oligo Arrays



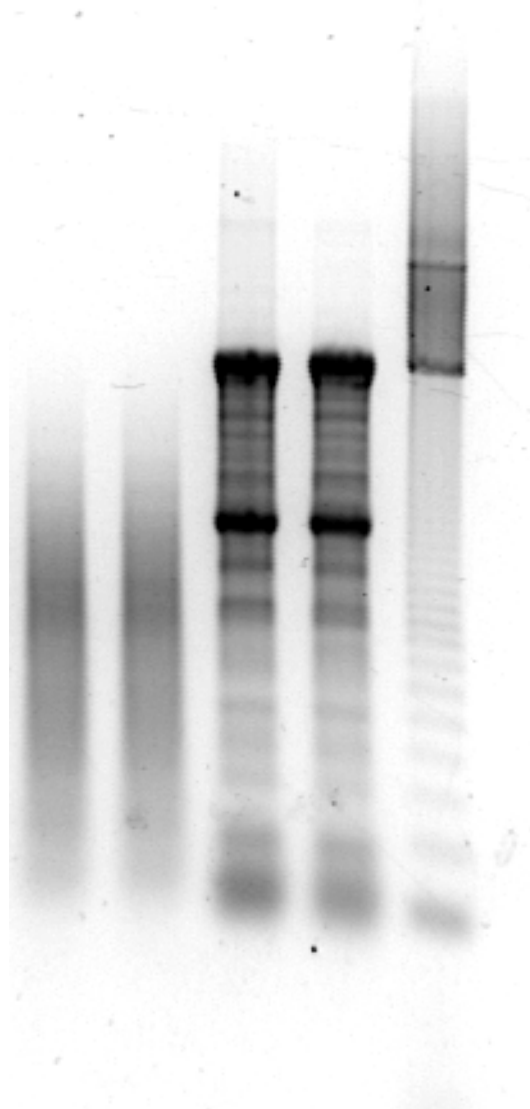
Observed Correlation Coefficients



Comparison of Labeling Methods Using Degraded RNA

Sample Preparation via Mg Acetate Degradation of Total RNA

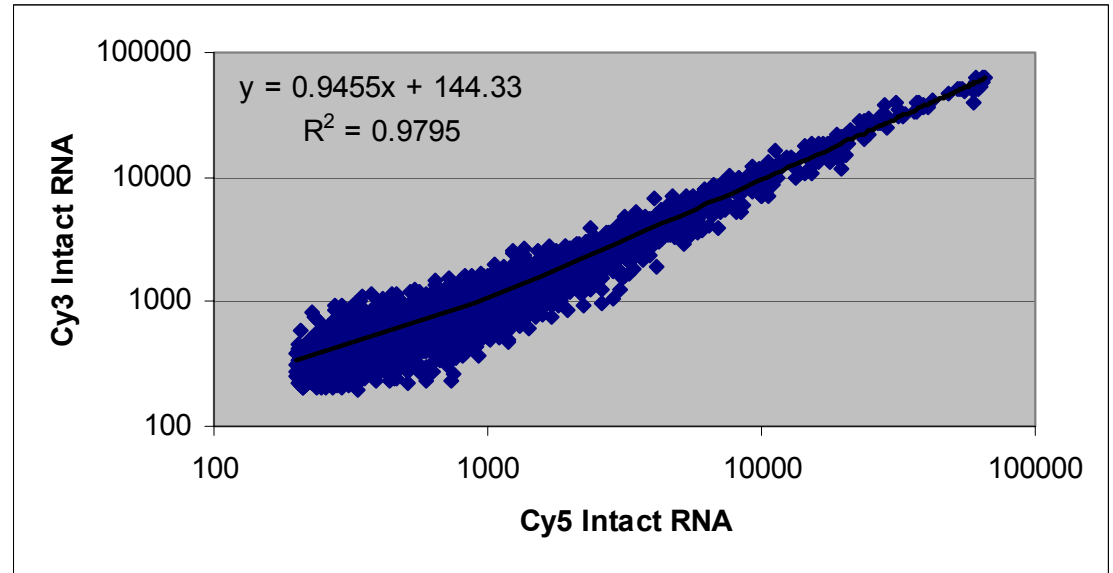
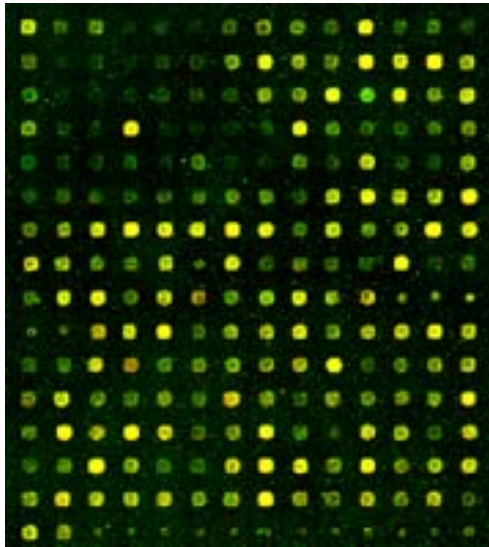
1 2 3 4 5



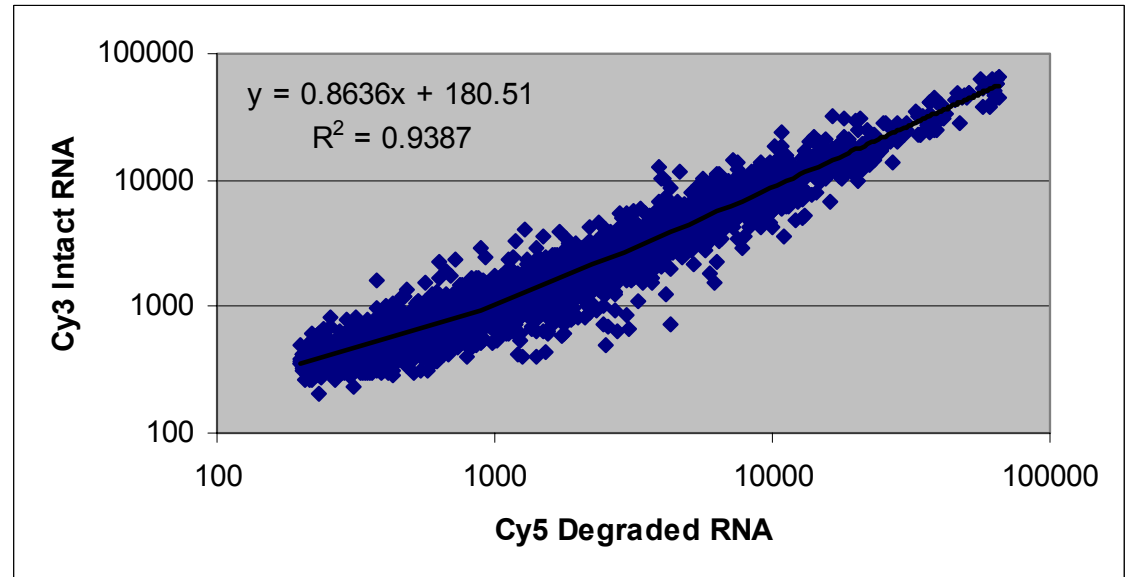
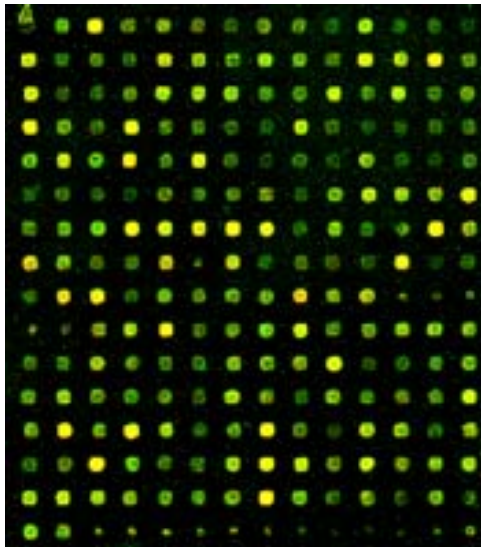
- 1: Rat Brain RNA degraded at 65°C for 15min
- 2: Rat Liver RNA degraded at 65°C for 15min
- 3: Intact Rat Brain RNA
- 4: Intact Rat Liver RNA
- 5: 123 base pair ladder

Array 900MPX Labeling on Oligo Arrays

1 μ g Intact rat brain RNA in both channels



1 μ g Intact rat brain RNA (Cy3) vs 1 μ g Degraded rat brain RNA



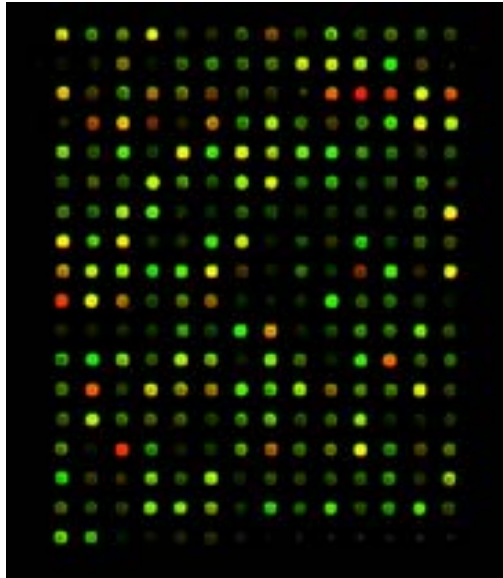
Comparison of Labeling Methods Using Degraded RNA

Cy3 rat brain vs Cy5 rat liver on Oligo Arrays

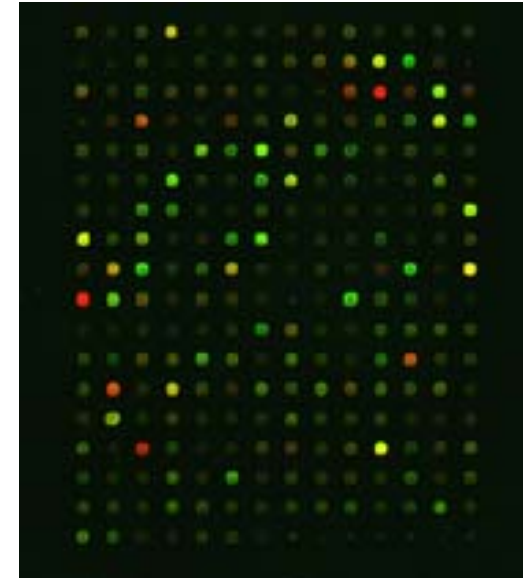
Intact Total RNA

Degraded Total RNA

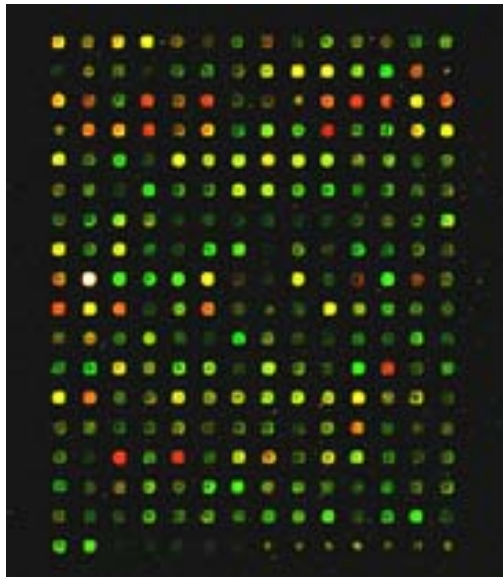
15 μ g Direct
Incorporation



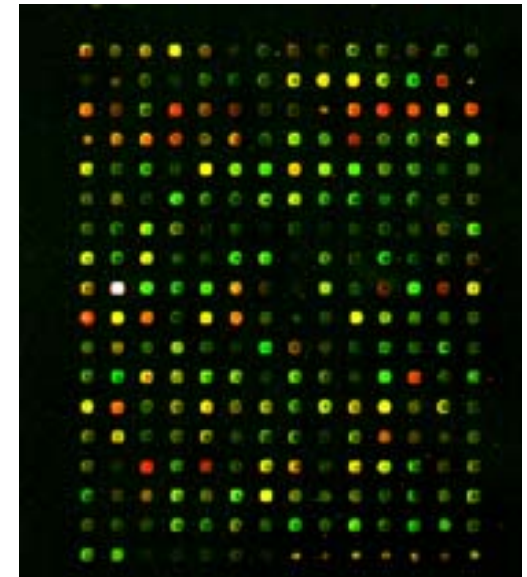
$R^2 = 0.85$



2 μ g Genisphere
Array 900MPX

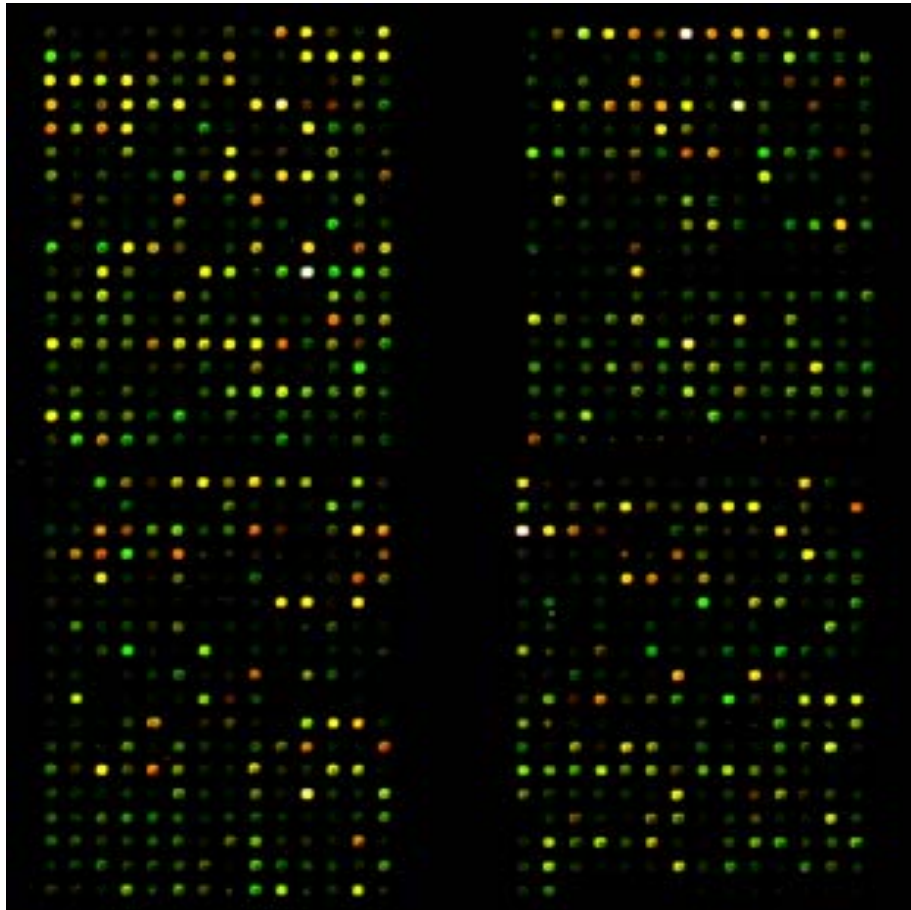


$R^2 = 0.91$



Array 900MPX labeling of SenseAmp AmRNA
Biological Replicate Analysis on Oligo Arrays
550ng amplified RNA per channel
Cy3 rat brain vs Cy5 rat liver

Sample Pair 1



Sample Pair 2

