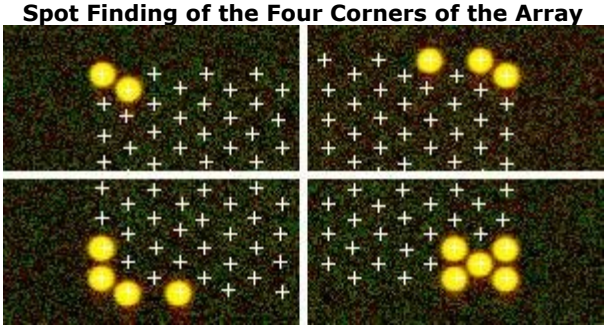
## QC Report - Agilent Technologies : 2 Color Gene Expression

QCMetrics InRange (12 of 12)

| | | | |
|---|---|---|---|
| Date | Tuesday, December 02, 2008 - 15:45 | BG Method | No Background |
| Image | 167-201-xdr_251485038758_S01_H [1_1] | Background Detrend | On(FeatNCRange, LoPass) |
| Protocol | GE2-v5_95_Feb07 (Read Only) | Multiplicative Detrend | True |
| User Name | scan | Dye Norm | Linear Lowess |
| Grid | 014850_D_F_20060807 | Linear DyeNorm Factor | 1.22(Red) 1.53(Green) |
| FE Version | 9.5.3.1 | Additive Error | 3(Red)6(Green) |
| | | Saturation Value | 640987 (r), 484366 (g) |

### Spot Finding of the Four Corners of the Array

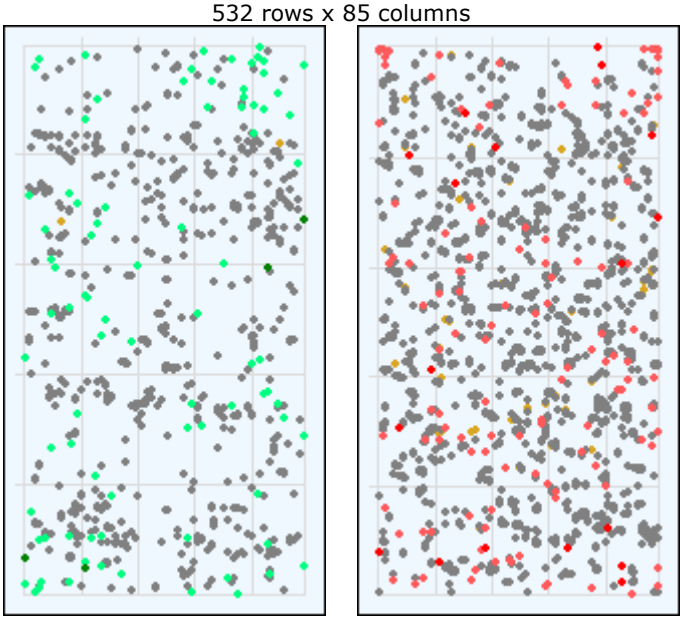


Grid Normal

| | Feature | | Local Background | |
|---|---|---|---|---|
| | Red | Green | Red | Green |
| Non Uniform | 18 | 4 | 83 | 5 |
| Population | 121 | 85 | 1307 | 611 |

### Spatial Distribution of All Outliers on the Array

532 rows x 85 columns



# FeatureNonUnif (Red or Green) = 18(0.04%)

# GeneNonUnif (Red or Green) = 17 (0.041 %)

BG NonUniform
BG Population
Red FeaturePopulation
Red Feature NonUniform
Green FeaturePopulation
Green Feature NonUniform

### Net Signal Statistics

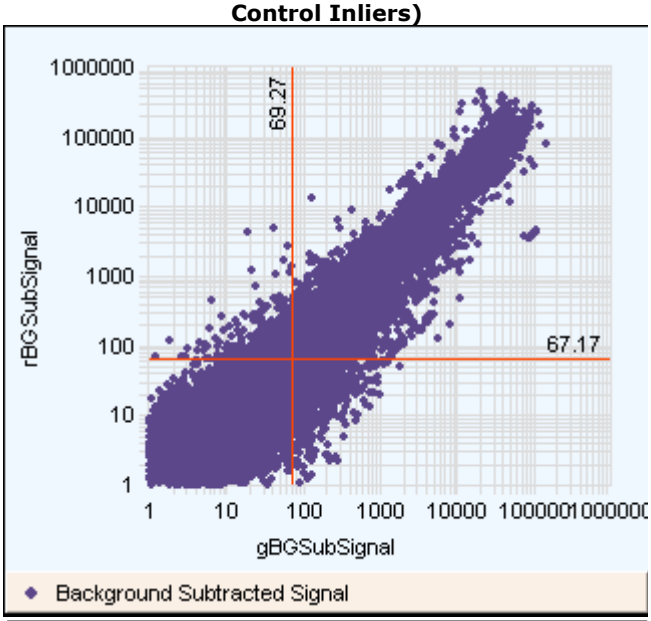
**Agilent SpikeIns:**

| | Red | Green |
|---|---|---|
| # Saturated Features | 0 | 0 |
| 99% of Sig. Distrib. | 194477 | 86633 |
| 50% of Sig. Distrib. | 25868 | 10824 |
| 1% of Sig. Distrib. | 1293 | 409 |

**Non-Control probes:**

| | Red | Green |
|---|---|---|
| # Saturated Features | 0 | 0 |
| 99% of Sig. Distrib. | 60217 | 29299 |
| 50% of Sig. Distrib. | 93 | 86 |
| 1% of Sig. Distrib. | 21 | 11 |

### Red and Green Background Corrected Signals (Non-Control Inliers)




# Features (NonCtrl) with BGSubSignals < 0: 5319 (Red); 5667 (Green)

### Negative Control Stats

| | Red | Green |
|---|---|---|
| Average Net Signals | 23.37 | 14.39 |
| StdDev Net Signals | 2.11 | 3.28 |
| Average BG Sub Signal | -2.13 | -2.84 |
| StdDev BG Sub Signal | 1.95 | 3.18 |

### Local Bkg (inliers)

| | Red | Green |
|---|---|---|
| Number | 43662 | 44402 |
| Avg | 61.22 | 54.32 |
| SD | 2.17 | 3.57 |

### Foreground Surface Fit

| | Red | Green |
|---|---|---|
| RMS_Fit | 0.66 | 0.87 |
| RMS_Resid | 2.60 | 3.78 |
| Avg_Fit | 64.62 | 56.70 |

### Reproducibility: %CV for Replicated Probes

| | Median %CV Signal (inliers) | | | |
|---|---|---|---|---|
| | Non-Control probes | | Agilent SpikeIns | |
| | Red | Green | Red | Green |
| BGSubSignal | 10.14 | 8.73 | 8.20 | 6.07 |
| ProcessedSignal | 4.10 | 4.39 | 2.95 | 3.08 |

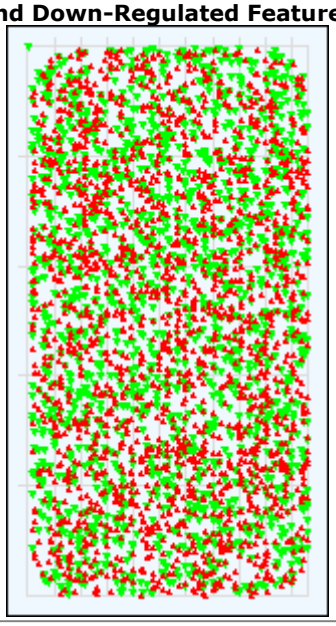
### Array Uniformity: LogRatios

| | Non-Control | Agilent SpikeIns |
|---|---|---|
| AbsAvgLogRatio | 0.23 | 0.52 |
| AverageS/N | 14.79 | 60.83 |

### Sensitivity:Agilent SpikeIns - Ratio of Signal to Background for 2 dimmest probes

| (+)E1A_r60_n11 | | (+)E1A_r60_a97 | |
|---|---|---|---|
| **(g)** | **(r)** | **(g)** | **(r)** |
| 58.2 | 130.9 | 120.1 | 27.3 |

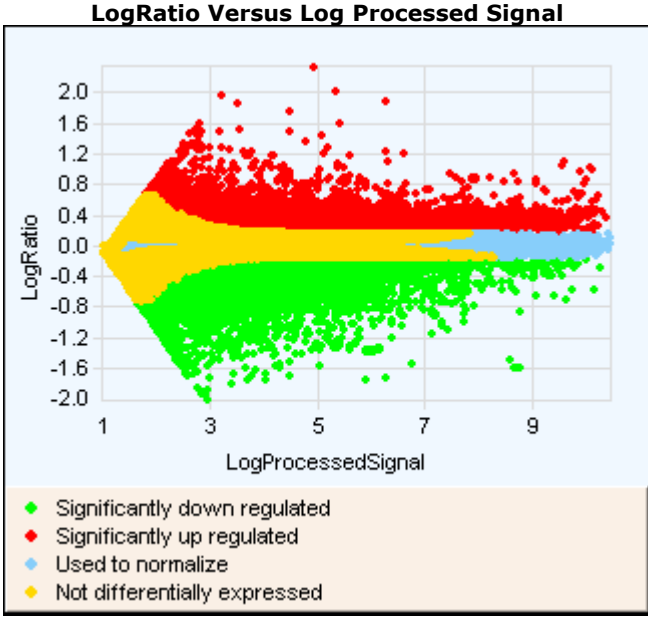
### Spatial Distribution of Significantly Up-Regulated and Down-Regulated Features



#Up-Regulated:5683 (Red) ; #Down-Regulated:4979 (Green)

ΔUp-Regulated ∇Down-Regulated

### LogRatio Versus Log Processed Signal



### Agilent SpikeIns Signal Statistics

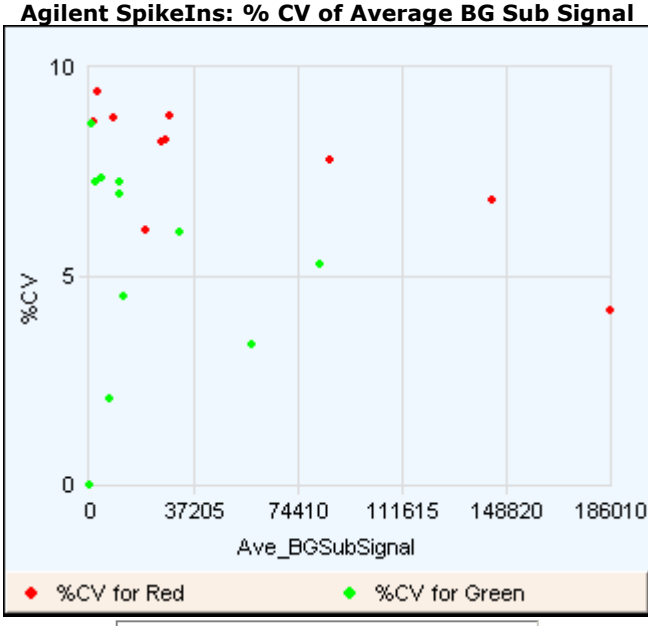
| Probe Name | Exp | Obs | SD | S/N |
|---|---|---|---|---|
| (+)E1A_r60_n9 | -1.00 | -0.87 | 0.01 | 155.16 |
| (+)E1A_r60_a107 | -0.48 | -0.33 | 0.01 | 54.62 |
| (+)E1A_r60_a135 | -0.48 | -0.29 | 0.01 | 51.22 |
| (+)E1A_r60_n11 | -0.48 | -0.31 | 0.01 | 34.27 |
| (+)E1A_r60_1 | 0.00 | 0.20 | 0.01 | 29.63 |
| (+)E1A_r60_a20 | 0.00 | 0.07 | 0.01 | 5.27 |
| (+)E1A_r60_3 | 0.48 | 0.67 | 0.01 | 84.78 |
| (+)E1A_r60_a104 | 0.48 | 0.59 | 0.01 | 52.43 |
| (+)E1A_r60_a97 | 0.48 | 0.71 | 0.01 | 55.14 |
| (+)E1A_r60_a22 | 1.00 | 1.18 | 0.01 | 85.75 |

### Evaluation Metrics for GE2_QCMT_Feb07

| Metric Name | Value | UpLim | LowLim | IsMandatory |
|---|---|---|---|---|
| AnyColorPrcntBGNonUnifOL | 0.20 | 5.00 | NA | False |
| AnyColorPrcntFeatNonUnif... | 0.04 | 1.00 | NA | False |
| absE1aObsVsExpCorr | 0.99 | NA | 0.86 | False |
| absE1aObsVsExpSlope | 1.02 | NA | 0.85 | False |
| gE1aMedCVBkSubSignal | 6.07 | 25.00 | NA | False |
| gNegCtrlAveBGSubSig | -2.84 | 10.00 | -20.00 | False |
| gNegCtrlSDevBGSubSig | 3.18 | 15.00 | NA | False |
| gNonCntrlMedCVBkSubSignal | 8.73 | 25.00 | NA | False |
| rE1aMedCVBkSubSignal | 8.20 | 25.00 | NA | False |
| rNegCtrlAveBGSubSig | -2.13 | 4.00 | -20.00 | False |
| rNegCtrlSDevBGSubSig | 1.95 | 6.00 | NA | False |
| rNonCntrlMedCVBkSubSignal | 10.14 | 25.00 | NA | False |

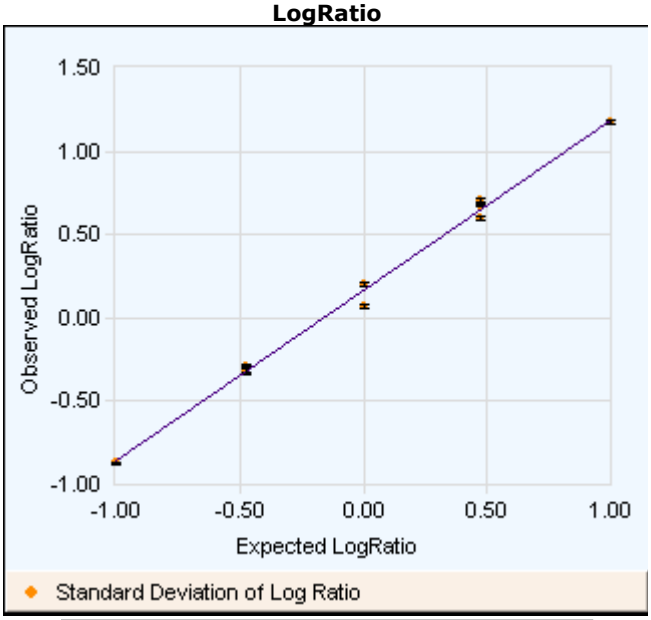
♦ In Normal Range ♦ Evaluate

### Agilent SpikeIns: % CV of Average BG Sub Signal




Median %CV:8.20%(Red);6.07%(Green)

### Agilent SpikeIns: Expected LogRatio Vs Observed LogRatio




Y-Intercept = 0.163 ; Slope = 1.022 ; R^2 = 0.995