QC Report - Agilent Technologies : 2 Color Gene Expression

Date	Thursday, May 24, 2018 - 11:35	BG Method	No Background
Image	SG15074465_257480913948_S001 [2_2]	Background Detrend	On(FeatNCRange, LoPass)
Protocol	GE2_1200_Jun14_PEG200_JRmod (Editable)	Multiplicative Detrend	True
User Name	Admin	Dye Norm	Linear
Grid	ExternalFullGEML_074809_D_F_20171030	Linear DyeNorm Factor	11.7(Red) 21.8(Green)
FE Version	12.0.1.1	Additive Error	17(Red)38(Green)
Sample(red/green)		Saturation Value	776684 (r), 777880 (g)
DyeNorm List	NA		
No of Probes in DyeNorm List	NA		

Spot Finding of the Four Corners of the Array
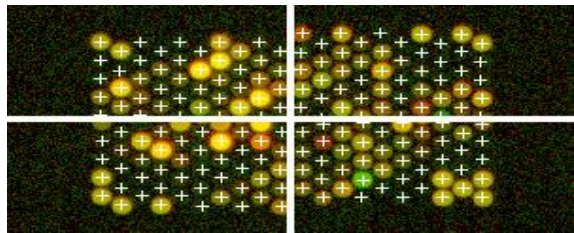
Grid Normal

	Feature		Local Background	
	Red	Green	Red	Green
Non Uniform	1	0	1543	0
Population	322	285	3658	3561

Spatial Distribution of All Outliers on the Array

384 rows x 164 columns

Net Signal Statistics

Non-Control probes:

	Red	Green
# Saturated Features	0	0
99% of Sig. Distrib.	57383	12963
50% of Sig. Distrib.	57	46
1% of Sig. Distrib.	9	17

Negative Control Stats

	Red	Green
Average Net Signals	9.66	18.51
StdDev Net Signals	1.16	1.70
Average BG Sub Signal	-1.56	-2.29
StdDev BG Sub Signal	1.15	1.62
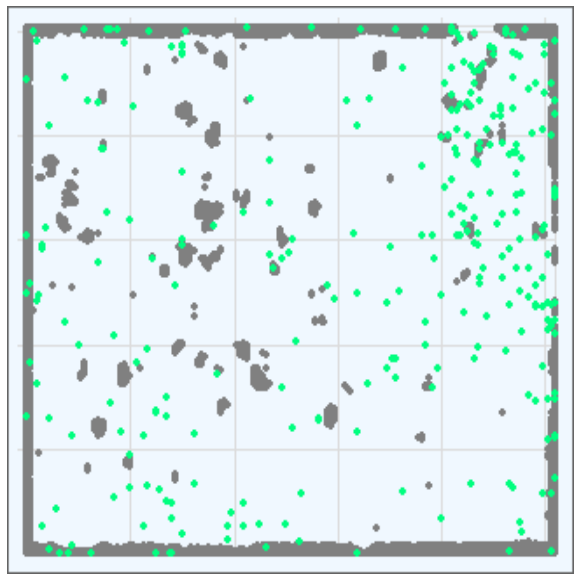
Red and Green Background Corrected Signals (Non-Control Inliers)

♦ Background Subtracted Signal
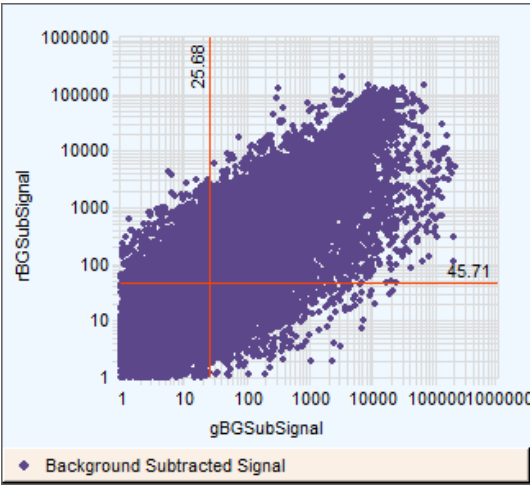
Features (NonCtrl) with BGSubSignals < 0: 3799 (Red); 5388 (Green)
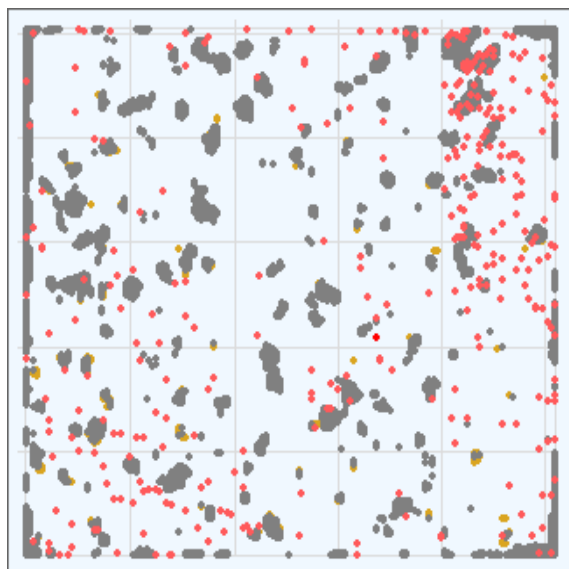
FeatureNonUnif (Red or Green) = 1(0.00%)

GeneNonUnif (Red or Green) = 1 (0.002 %)

- ● BG NonUniform
- ● Red FeaturePopulation
- ● Green FeaturePopulation
- ● BG Population
- ● Red Feature NonUniform
- ● Green Feature NonUniform

Local Bkg (inliers)

	Red	Green
Number	59180	59415
Avg	23.31	24.95
SD	1.97	0.91

Foreground Surface Fit

	Red	Green
RMS_Fit	0.23	0.58
RMS_Resid	1.49	1.75
Avg_Fit	21.23	30.81

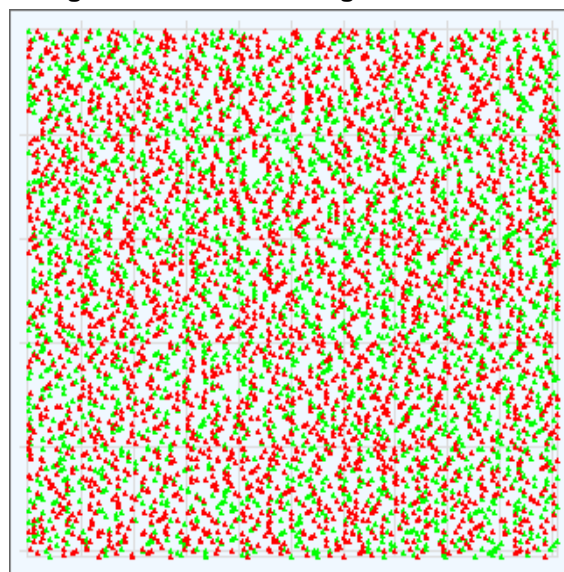## Reproducibility: %CV for Replicated Probes

Median %CV Signal (inliers)

Non-Control probes

	Red	Green
BGSubSignal	5.05	5.76
ProcessedSignal	5.05	3.57

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

#Up-Regulated:15199 (Red) ; #Down-Regulated:12797 (Green)

● Up-Regulated ● Down-Regulated

Up Reg: 25.63% of NonCtrl Features : Random (Value 0.81)
Down Reg: 21.58% of NonCtrl Features : Random (Value 1.08)

LogRatio Versus Log Processed Signal

- ◆ Significantly down regulated
- ◆ Significantly up regulated
- ◆ Used to normalize
- ◆ Not differentially expressed

Array Uniformity: LogRatios

Non-Control

AbsAvgLogRatio	0.55
AverageS/N	29.80

Evaluation Metrics for GE2_QCMT_Jun14
Good (8) ; Evaluate (1)

Metric Name	Value	Excellent	Good	Evaluate
IsGoodGrid	1.00		>1	<1
AnyColorPrcntFeatNonU...	0.00		<1	>1
gNegCtrlAveBGSubSig	-2.29		-20 to 10	<-20 or >10
gNegCtrlSDevBGSubSig	1.62		<15	>15
rNegCtrlAveBGSubSig	-1.56		-20 to 4	<-20 or >4
rNegCtrlSDevBGSubSig	1.15		<6	>6
gNonCntrlMedCVBkSubSi..	5.76		0 to 18	<0 or >18
rNonCntrlMedCVBkSubSi...	5.05		0 to 18	<0 or >18
gE1aMedCVBkSubSignal	-		0 to 18	<0 or >18
rE1aMedCVBkSubSignal	-		0 to 18	<0 or >18
absE1aObsVsExpCorr	-		>0.86	<0.86
absE1aObsVsExpSlope	-		>0.85	<0.85
LogRatioImbalance	-16.33	-0.26 to 0.26	(-0.75 to -0.2...	<-0.75 or >0.75

● Excellent ● Good ● Evaluate