

Automatic Analysis of GFP Cell Sample

- Identify GFP positive cells among sample
- Determine GFP transfection efficiency
- Compare Vision to Flowcytometer

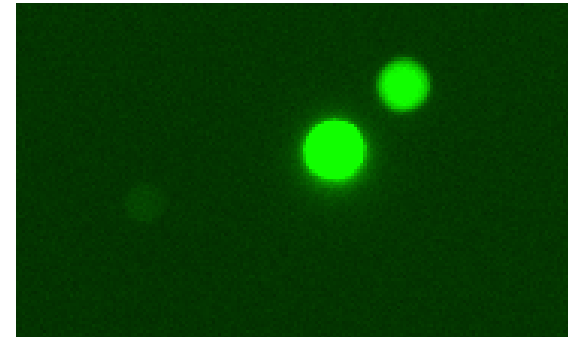
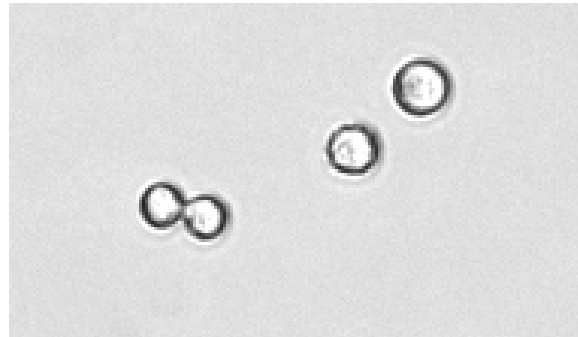


Identify GFP Positive Cells Using Cellometer Vision

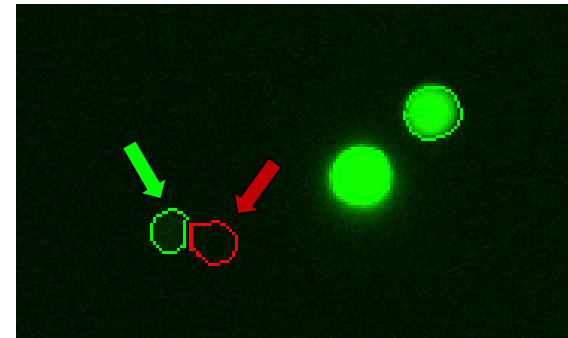
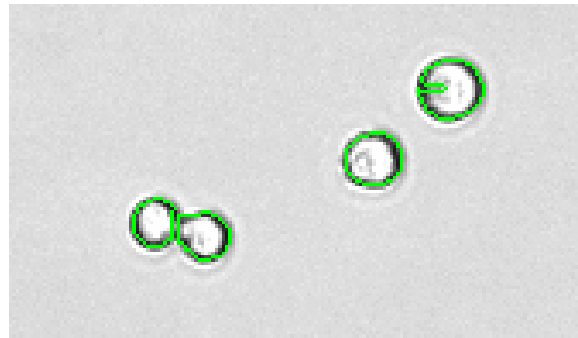
Raw images

Processed images

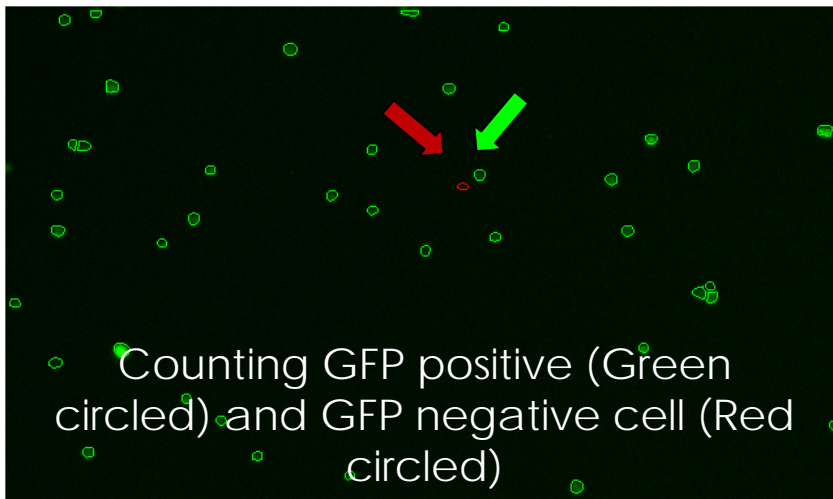
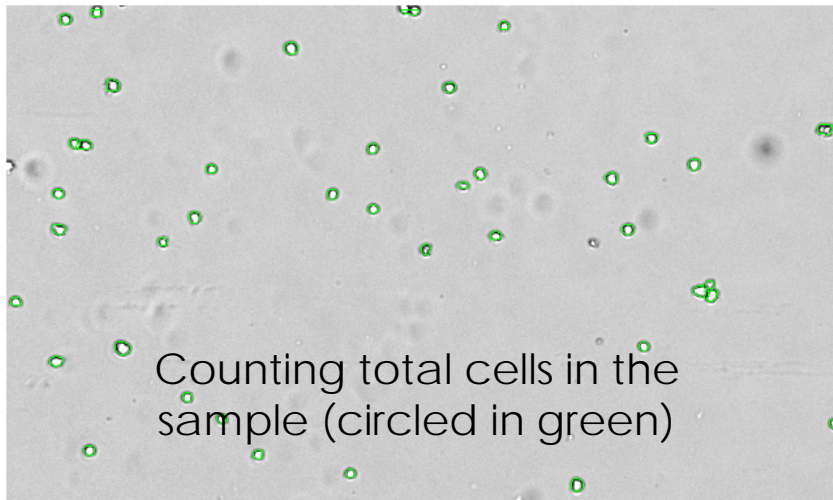
Bright field image



Fluorescence image



Determine GFP Transfection Rates



Counting Results

Sample: Dr Lu GFP_20100225_160534
Dilution: 1.0
Assay: Assay #03_GFP_HEK
Description: Cell line transfection rate measurement using GFP
Cell: HeLa GFP
Description: initial cell type for installation and training

	Bright Field	Fluorescence
Count	889	837
Mean Size	11.0	11.1
		(BR Size)
Concentration	1.26×10^6	1.19×10^6

$$\frac{\text{F1 Count}}{\text{BR Total Count}} = 94.2\%$$

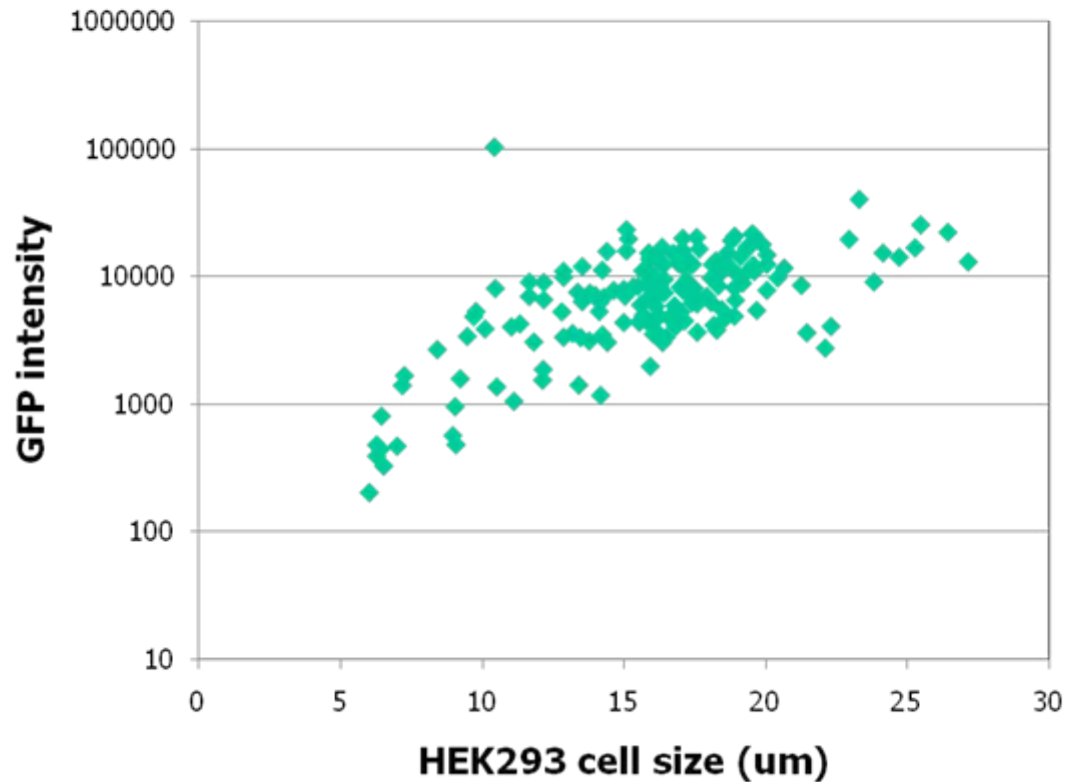
Export Print Done

Show Size Distribution
Intensity Distribution
Size vs Intensity
Sample Adjustment
Set Data File
Save to Data File
View Data File

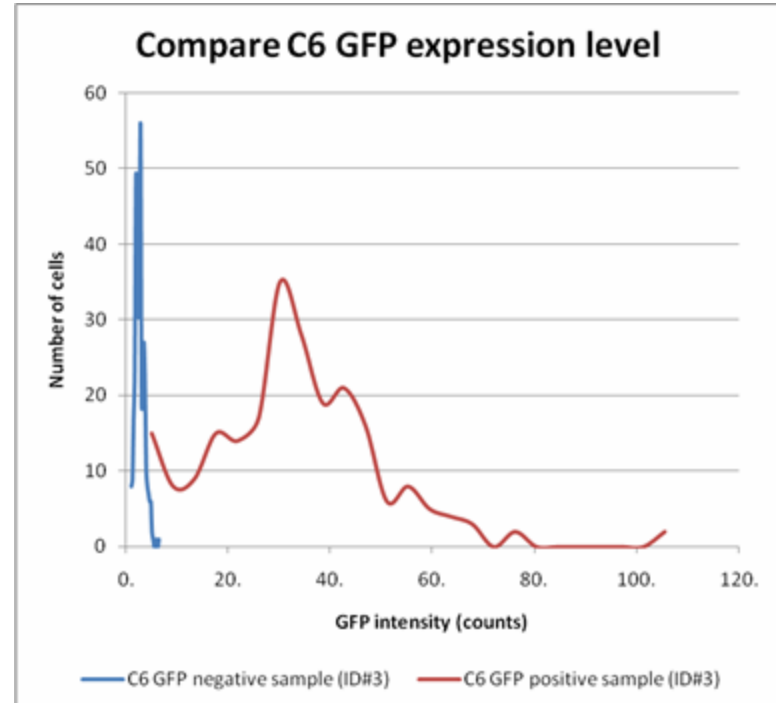
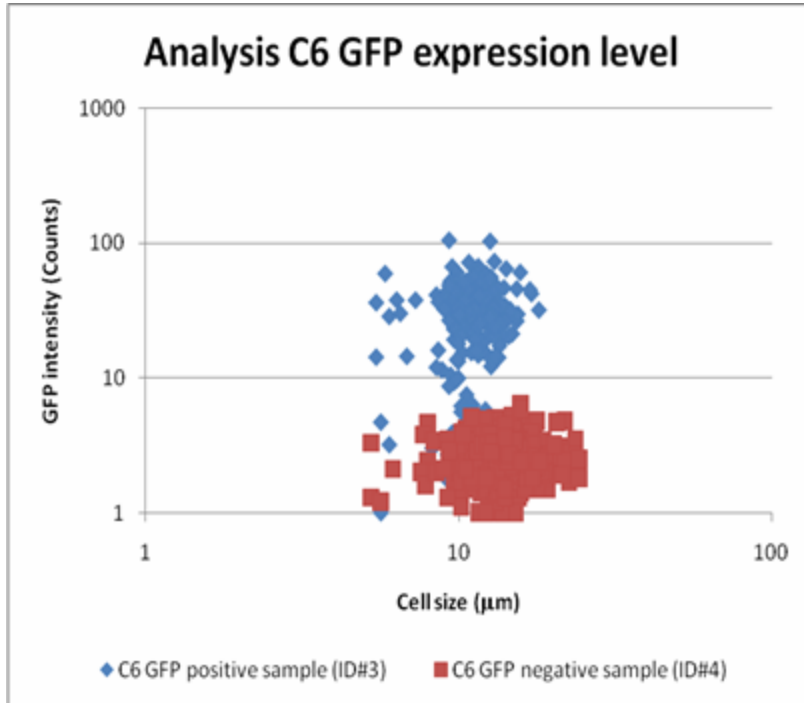


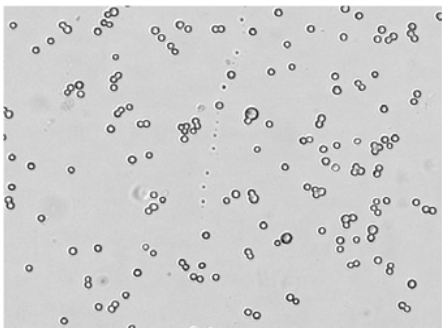
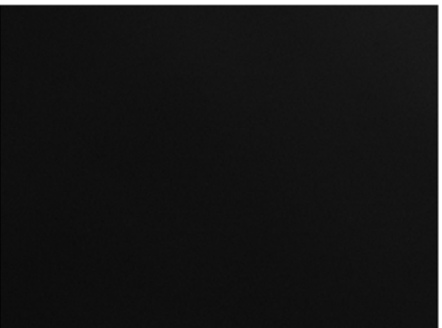
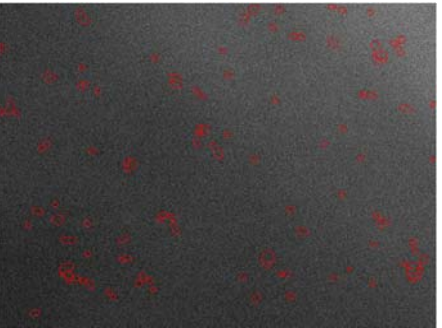
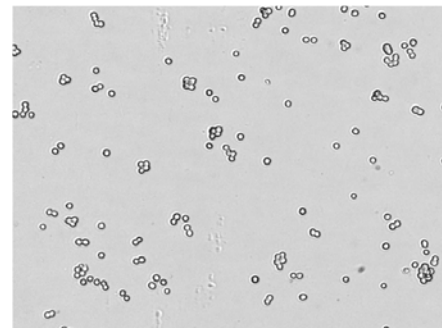
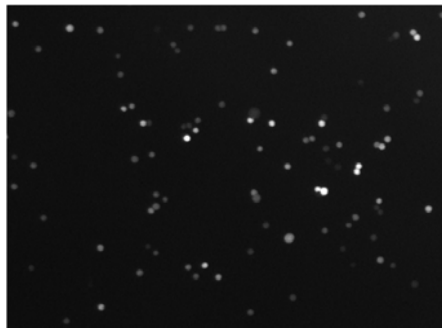
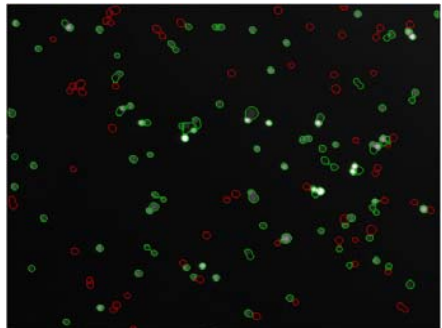
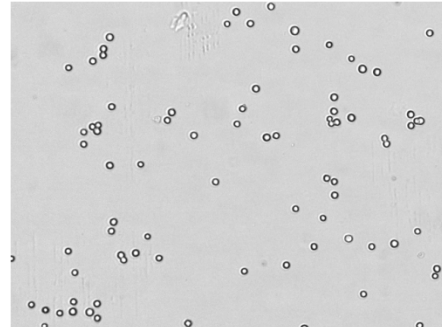
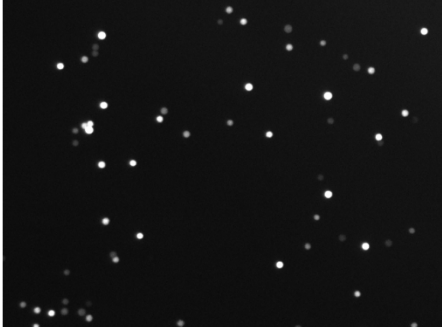
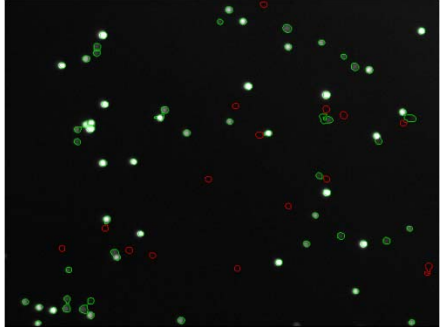
Quatitatively Analysis GFP Signal Intensity

Fluorescence intensity vs. cell size



GFP Expression Level



Samples	Bright field image for total cell counts	Fluorescence image for detecting GFP signals	Green circled cells are counted GFP positive cells
negative control			
GFP sample1			
GFP sample2			



GFP Transfection Rate

Sample Name	Count Type	Cell Count#	Concentration (cells/ml)	GFP transfection rates (%)	Flow cytometry results
Sample-1	BR	411	7.49E+05		
Sample-1	F1	3	5.49E+03	0.7%	NA
Sample-2	BR	227	4.10E+05		
Sample-2	F1	212	3.83E+05	93.4%	96.0%
Sample-3	BR	447	2.55E+06		
Sample-3	F1	0	0.00E+00	0.0%	NA
Sample-4	BR	308	1.75E+06		
Sample-4	F1	241	1.37E+06	78.2%	82.0%
Sample-5	BR	483	2.75E+06		
Sample-5	F1	288	1.64E+06	59.6%	58.0%

