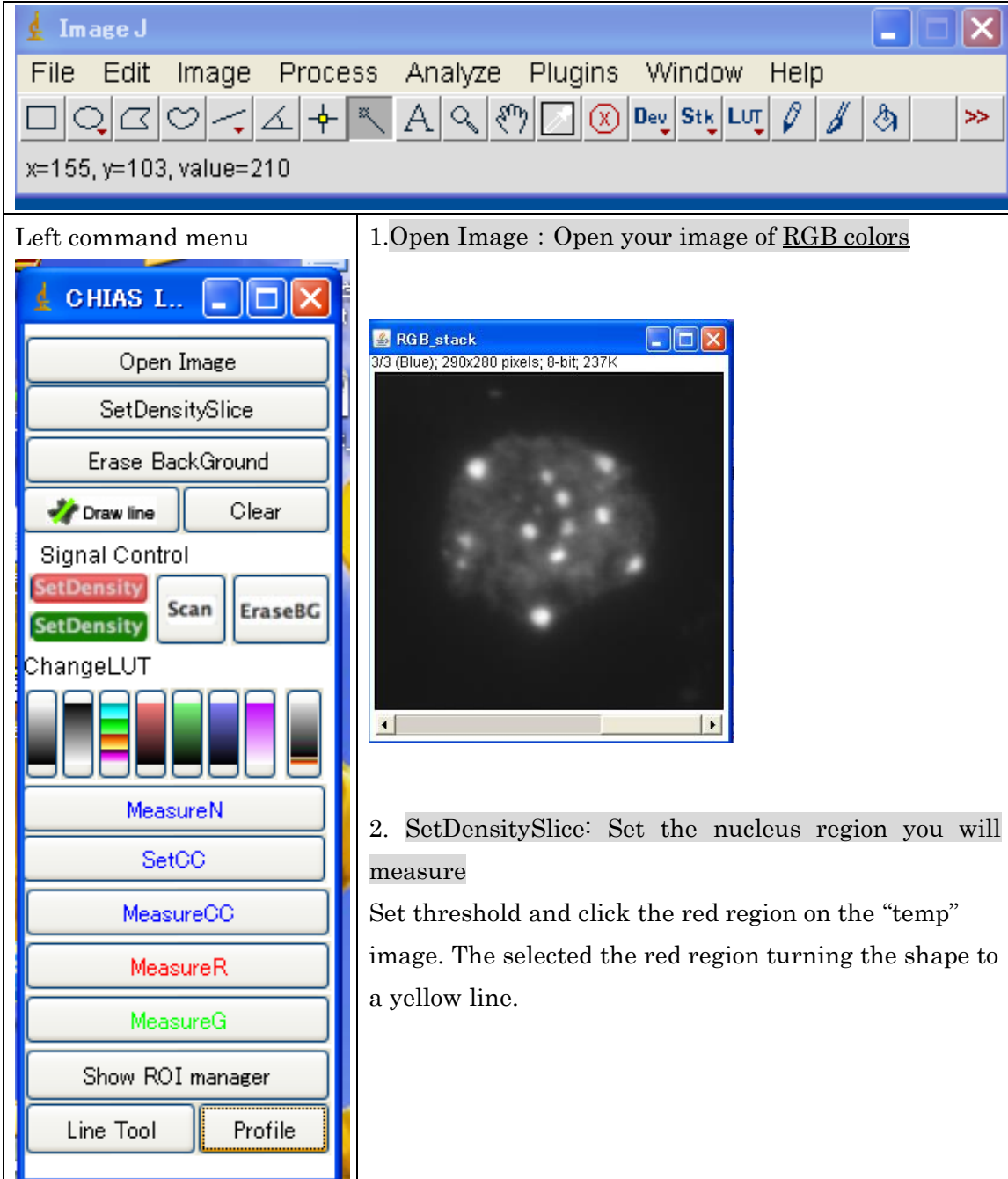


Download ImageJ on <http://rsb.info.nih.gov/ij/>

Put this attachment file " CHIASi\_.jar " to the " plugins " folder, which is a subfolder of the ImageJ folder and restart ImageJ.

Open Image J

Open “Plugin”-“CHIAS interphase”



The screenshot displays the ImageJ application window. The main menu bar includes File, Edit, Image, Process, Analyze, Plugins, Window, and Help. Below the menu is a toolbar with various icons for image manipulation. The status bar at the bottom indicates 'x=155, y=103, value=210'.

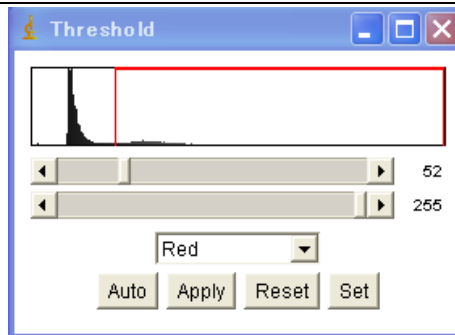
On the left, the 'CHIAS L...' plugin window is open, showing a list of commands: Open Image, SetDensitySlice, Erase BackGround, Draw line, Clear, Signal Control (SetDensity, Scan, EraseBG), ChangeLUT (with a color palette), MeasureN, SetCC, MeasureCC, MeasureR, MeasureG, Show ROI manager, Line Tool, and Profile.

On the right, the 'RGB\_stack' window is open, displaying a grayscale image of a cell nucleus. The window title bar shows 'RGB\_stack' and the status bar indicates '3/3 (Blue); 290x280 pixels; 8-bit; 237K'.

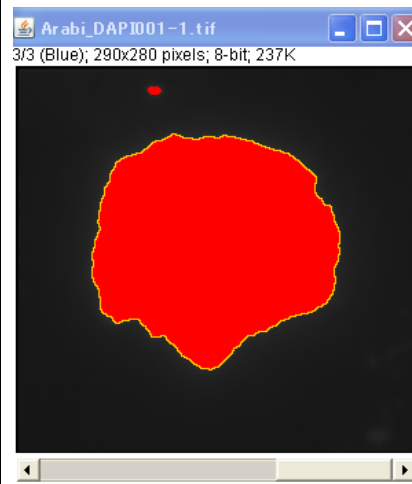
1. Open Image : Open your image of RGB colors

2. SetDensitySlice: Set the nucleus region you will measure

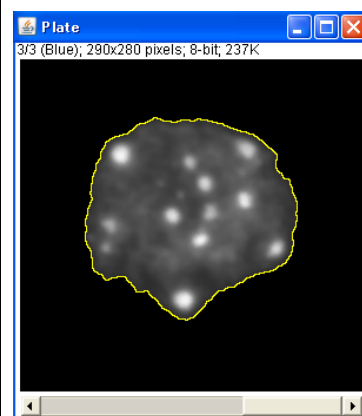
Set threshold and click the red region on the “temp” image. The selected the red region turning the shape to a yellow line.



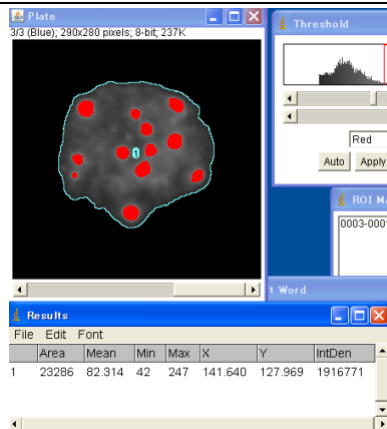
Note; Don't click any command: Auto, Apply, Reset, Set



3. Erase BackGround: Erase the back ground noise or another image



<div><div>Signal Control</div><div><div>SetDensity</div><div>SetDensity</div><div>Scan</div><div>EraseBG</div></div></div>	<p>4. Signal control: Set the signal regions of each R (red) and G (green) for FISH or immunostaining signals</p> <p>Click “setDensity” (red color for red signal)</p> <div><div><div>Plate</div><div>1/3 (Red); 290x280 pixels; 8-bit, 237K</div><div></div></div><div><div>Threshold</div><div></div><div>125 255</div><div>Red</div><div>Auto Apply Reset Set</div></div></div>														
<div><div>Signal Control</div><div><div>SetDensity</div><div>SetDensity</div><div>Scan</div><div>EraseBG</div></div></div>	<p>“Scan”</p> <p>“EraseBG”</p> <div><div><div>Plate</div><div>2/3 (Green); 290x280 pixels; 8-bit, 237K</div><div></div></div><div><div>Threshold</div><div></div><div>104 255</div><div>Red</div><div>Auto Apply Reset Set</div></div><div><div>Results</div><div>File Edit Font</div><table><thead><tr><th></th><th>Area</th><th>Mean</th><th>Min</th><th>Max</th><th>X</th><th>Y</th></tr></thead><tbody><tr><td>1</td><td>609</td><td>209.599</td><td>184</td><td>247</td><td>143.955</td><td>131.599</td></tr></tbody></table></div><div><div>ROI Manager</div><div>0002-0141-0149</div><div>Add [t] Update Delete Rename Open Save Measure Deselect Show All More &gt;&gt;</div></div></div>		Area	Mean	Min	Max	X	Y	1	609	209.599	184	247	143.955	131.599
	Area	Mean	Min	Max	X	Y									
1	609	209.599	184	247	143.955	131.599									
Repeat for green signal for green “SetDensity”															
Measure N	Measurement for the Nucleus data														



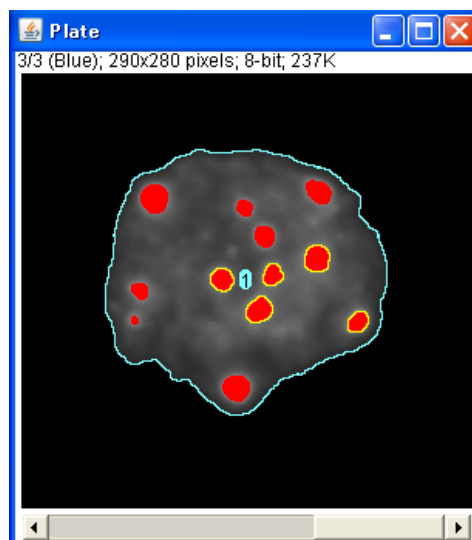
Results should be copied to the Excel's template file on the book of "N", and store the excel file to another name.

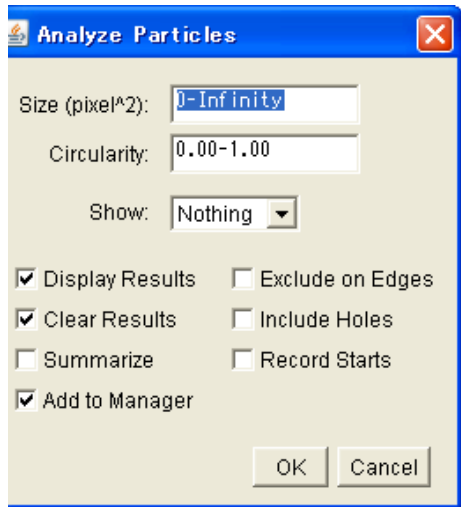
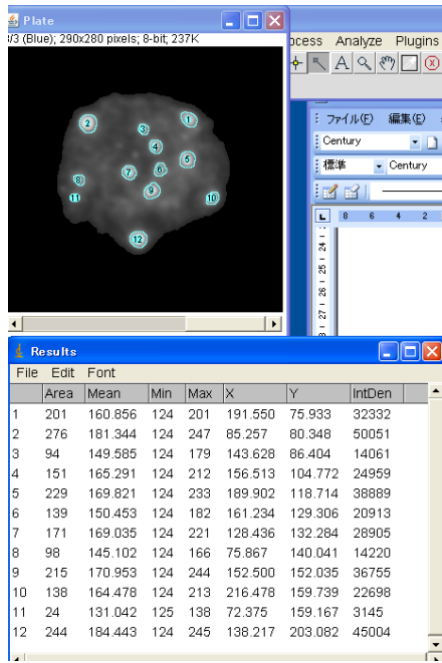
SetCC

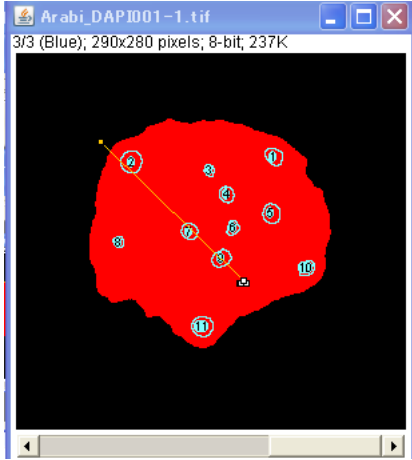
Set chromocenter

Set chromocenter by threshold

Click the red region one by one with pushing "shift" key and selected chromocenter regions turning the yellow lines.



Measure CC	<p>Measure Chromocenter data</p>  <p>Click “OK”</p> <p>Note; Process all 3 slices? There is no Undo if you select “Yes”: Click “No”</p>
	 <p>Results should be copied to the Excel’s template file on the book of “CC”</p>
Measure R Measure G	<p>Measure R :Measurement for the red signal area</p> <p>Results should be copy to the Excel’s template file on the book of “R”</p>

	<p>Measure G :Measurement for the green signal area</p> <p>Results should be copy to the Excel's template file on the book of "G"</p> <p>Note; Process all 3 slices? There is no Undo if you select "Yes": Click "No"</p>
Excel file	<p>The plot of signals of CC and signals positions</p> <p>template_interphase0916.xls</p> <p>Look at the chart</p>
<div><div>Line Tool</div><div>Profile</div></div>	<p>Line Tool and Profile: Get the condensation profile.</p> <p>Line Tool: Draw yellow line of your interest by a click</p>  <p>Profile: Show the profile curves of three images.</p> 