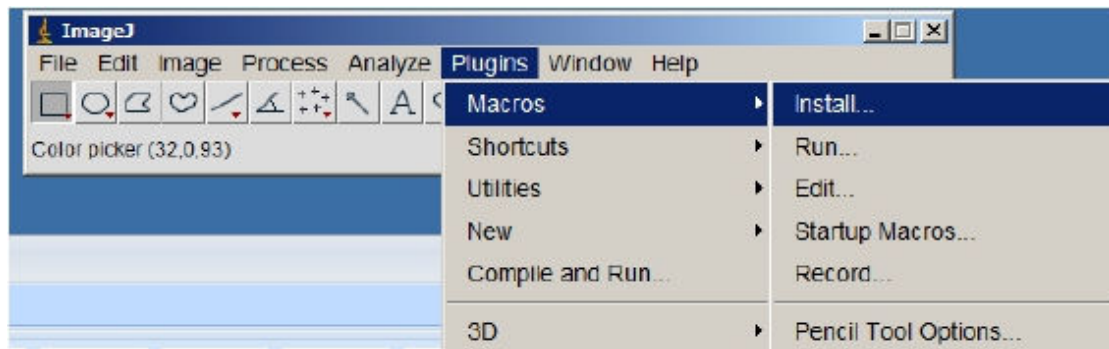
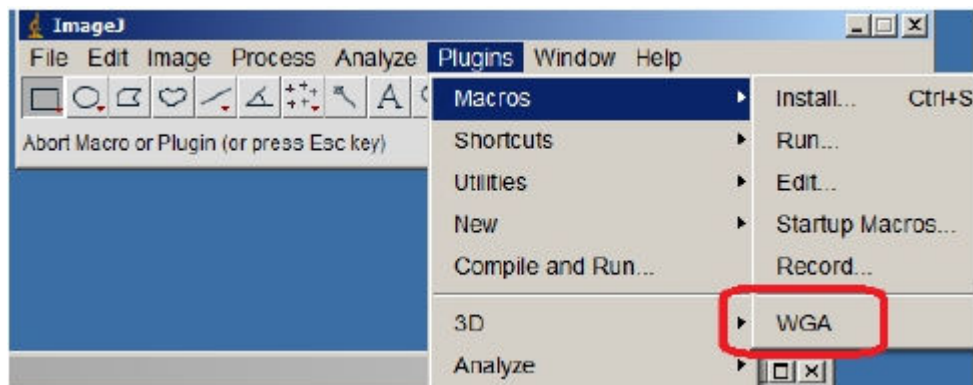


## RUN THE MACRO



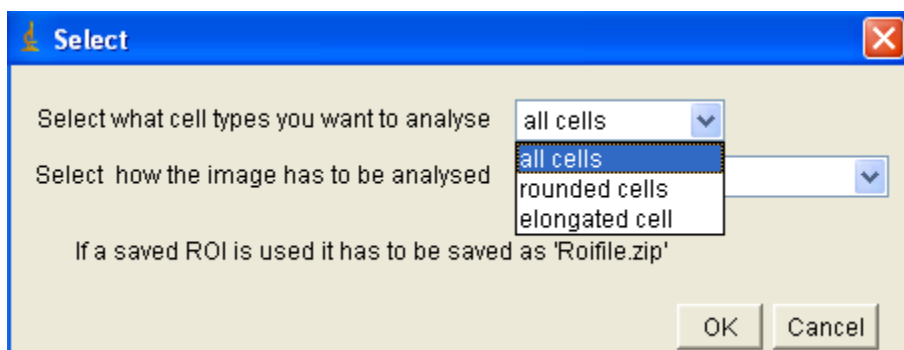
Plugin > Macros> Install and select: WGA\_All.txt

Select: WGA from the menu to start the macro.



First window: Choose the source directory that contains the tif or jpg-files you want to analyse.

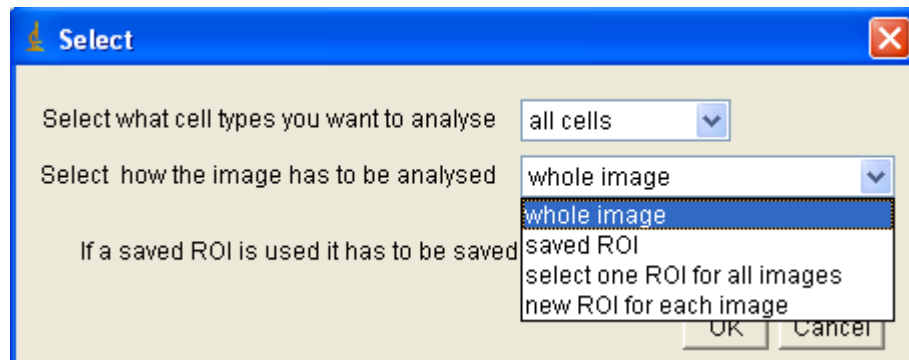
Next window: Choose the directory to store the results from your analysis. Select in the next window called 'Select' first if you want to analyse "all cells", "rounded cells" or "elongated cells".



Rounded cell have circularity=0.60-1.00, elongated cells have circularity=0.00-0.59999. The user can change this in the macro if necessary.

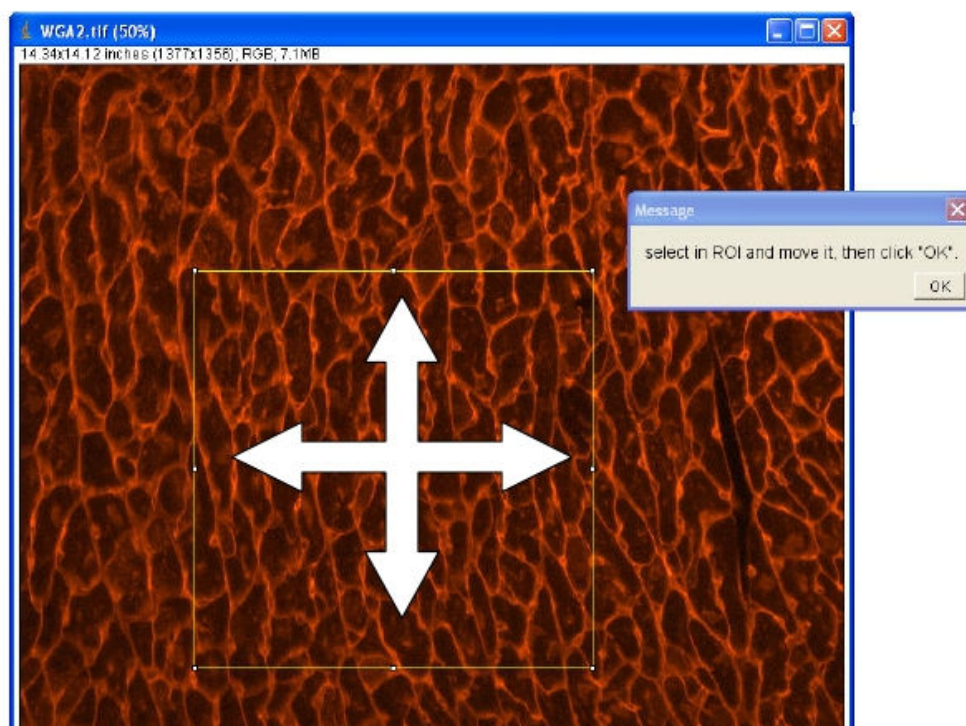
Next choose how the image has to be analysed:

- analyse the whole image.
- want to use a save Region of Interest (ROI).
- select one ROI for all images. This ROI will be saved.
- draw a new ROI for each image.



By default the rectangular ROI is selected in the ImageJ menu. However, the user can change this to any of the other selection options from the ImageJ menu.

- When 'whole image' is selected no further input from the user is required.
- When 'saved ROI' is selected, the user will be asked for the location of the 'ROIfile.zip', containing the information of the ROI. If you use a saved ROI this has to be saved as 'ROIfile.zip'. The user gets the option to move the ROI in each image by selecting with the mouse within the ROI and drag the ROI to a new position (see image below).



- When 'select one ROI for all images' is selected the user is asked to draw the ROI on the first image. This information is saved in the destination directory and this ROI is used for all other images to be analysed. The user gets the option to move the ROI in each image by selecting with the mouse within the ROI and drag the ROI to a new position.
- When 'new ROI for each image' is selected the user will be asked to draw a ROI on the image. This ROI will be analysed and the next image will be opened to draw the next ROI. This will be repeated till all images are analysed.

During analysis results windows will be visible. Don't select anything else during the analysis.

At the end of the analysis all the Windows will be closed by the macro and the analysis is ready.

## RESULTS

In the directory selected for the results the following files can be found if whole images are analysed:

Filename-results.txt: file with the area for each cell in the image.

Filename-RoiSet.zip: file with the coordinates for each cell found in the image.

Summary.txt: overview file with the total number of found cells for each image analysed.

In the directory selected for the results the following files can be found when ROIs are selected:

Filename-ROI.tif: tif-file of the selected ROI; part of the original image.

Filename-ROI-results.txt: file with the area for each cell in the image.

Filename-ROI-RoiSet.zip: file with the coordinates for each cell found in the image.

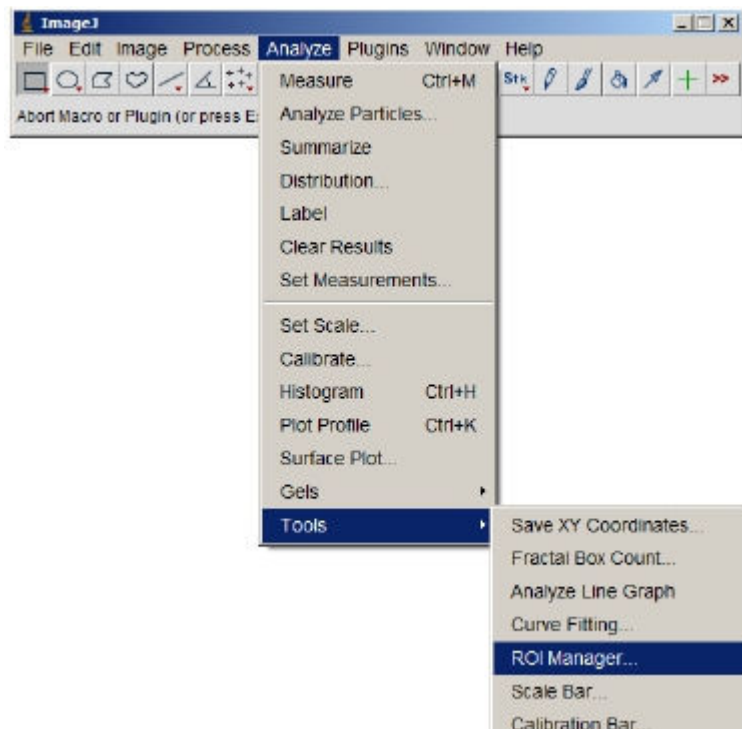
Summary.txt: overview file with the total number of found cells for each image analysed.

If the user selected 'select one ROI for all images' the resulting 'ROIfile.zip' can also be found in this directory.

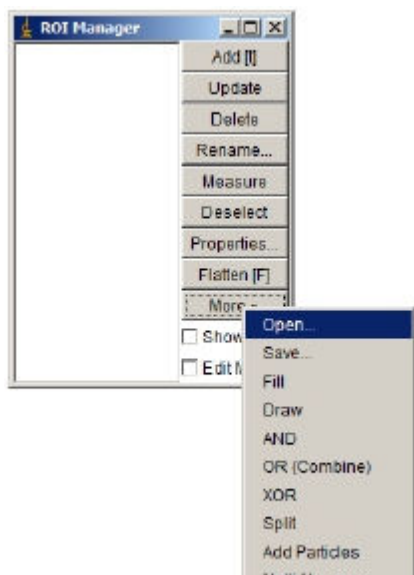
The results files can be opened in Excel; just drag and drop into an excel window.

## CHECK RESULTS

To check the results of the identified cells open the ROI manager



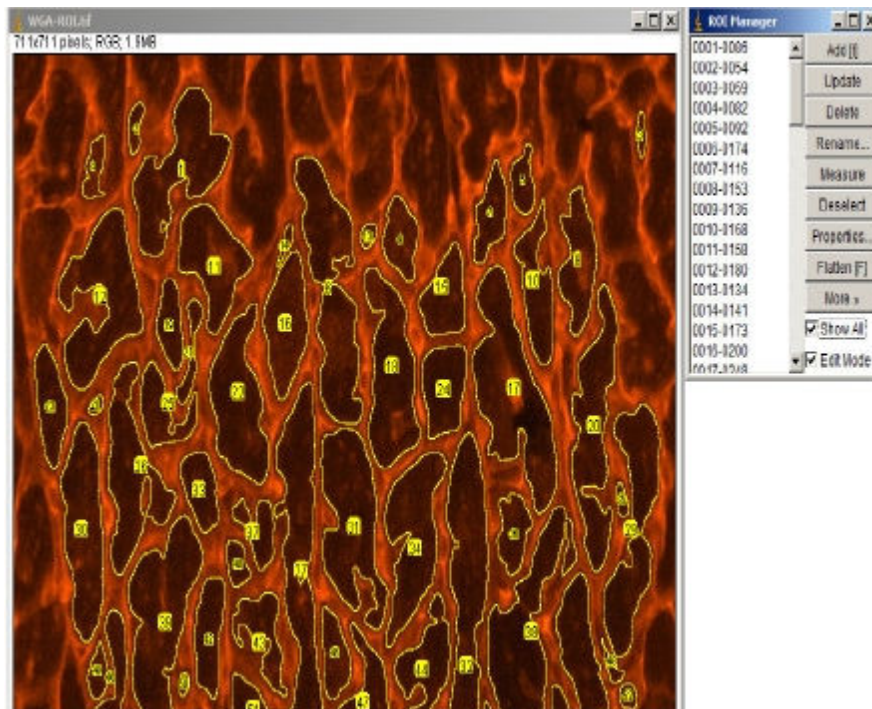
Load the RoiSet.zip file for the image you want to check.



A list of coordinates will be loaded in the ROI manager.

Open the tif-image you want to check. In the case a ROI is used load the Filename-ROI.tif file from the results directory otherwise open the original tif/jpg-file from the source directory.

In the ROI manager select now 'Show All'. If it is already selected when the manager was opened first deselect it before selecting it again. As a result the identified cells will be outlined in the tif/jpg-image.



Individual cells can be selected in the ROI manager or by selecting the number in the image.