

CellProfiler Pipeline: <http://www.cellprofiler.org>
Version:1
SVNRevision:10997

LoadImages:[module_num:1|svn_version:\'10951\'|variable_revision_number:1
1|show_window:True|notes:\x5B\x5D]

File type to be loaded:individual images
File selection method:Text-Exact match
Number of images in each group?:3
Type the text that the excluded images have in common:Do not use
Analyze all subfolders within the selected folder?:None
Input image file location:Default Input Folder\x7C.
Check image sets for missing or duplicate files?:No
Group images by metadata?:No
Exclude certain files?:No
Specify metadata fields to group by:
Select subfolders to analyze:
Image count:1
Text that these images have in common (case-sensitive):.tif
Position of this image in each group:cutbox_
Extract metadata from where?:None
Regular expression that finds metadata in the file name:None
Type the regular expression that finds metadata in the subfolder

path:None

Channel count:1
Group the movie frames?:No
Grouping method:Interleaved
Number of channels per group:2
Load the input as images or objects?:Images
Name this loaded image:loaded_images
Name this loaded object:Nuclei
Retain outlines of loaded objects?:No
Name the outline image:NucleiOutlines
Channel number:1
Rescale intensities?:Yes

ColorToGray:[module_num:2|svn_version:\'10318\'|variable_revision_number:
2|show_window:True|notes:\x5B\x5D]

Select the input image:loaded_images
Conversion method:Split
Image type\x3A:RGB
Name the output image:gray_image
Relative weight of the red channel:1
Relative weight of the green channel:1
Relative weight of the blue channel:1
Convert red to gray?:Yes
Name the output image:OrigRed
Convert green to gray?:Yes
Name the output image:OrigGreen
Convert blue to gray?:Yes
Name the output image:OrigBlue
Channel count:1
Channel number\x3A:Red\x3A 1
Relative weight of the channel:1

Image name\x3A:Channel1

ImageMath:[module_num:3|svn_version:\'10718\'|variable_revision_number:3|show_window:True|notes:\x5B\x5D]

Operation:Invert
Raise the power of the result by:1.0
Multiply the result by:1.0
Add to result:0
Set values less than 0 equal to 0?:Yes
Set values greater than 1 equal to 1?:Yes
Ignore the image masks?:No
Name the output image:inverted_image
Image or measurement?:Image
Select the first image:OrigGreen
Multiply the first image by:1.0
Measurement:
Image or measurement?:Image
Select the second image:
Multiply the second image by:1
Measurement:

IdentifyPrimaryObjects:[module_num:4|svn_version:\'10826\'|variable_revision_number:8|show_window:True|notes:\x5B\x5D]

Select the input image:inverted_image
Name the primary objects to be identified:id_objects
Typical diameter of objects, in pixel units (Min,Max):10,50
Discard objects outside the diameter range?:Yes
Try to merge too small objects with nearby larger objects?:No
Discard objects touching the border of the image?:Yes
Select the thresholding method:RidlerCalvard Adaptive
Threshold correction factor:1
Lower and upper bounds on threshold:0,1
Approximate fraction of image covered by objects?:0.99
Method to distinguish clumped objects:Intensity
Method to draw dividing lines between clumped objects:Intensity
Size of smoothing filter:10
Suppress local maxima that are closer than this minimum allowed distance:5
Speed up by using lower-resolution image to find local maxima?:Yes
Name the outline image:outline_image
Fill holes in identified objects?:Yes
Automatically calculate size of smoothing filter?:Yes
Automatically calculate minimum allowed distance between local maxima?:Yes
Manual threshold:0.0
Select binary image:RidlerCalvard Adaptive
Retain outlines of the identified objects?:Yes
Automatically calculate the threshold using the Otsu method?:Yes
Enter Laplacian of Gaussian threshold:.5
Two-class or three-class thresholding?:Two classes
Minimize the weighted variance or the entropy?:Weighted variance
Assign pixels in the middle intensity class to the foreground or the background?:Foreground

Automatically calculate the size of objects for the Laplacian of Gaussian filter?:Yes

Enter LoG filter diameter:5

Handling of objects if excessive number of objects identified:Continue

Maximum number of objects:500

Select the measurement to threshold with:None

MeasureObjectNeighbors:[module_num:5|svn_version:\'Unknown\'|variable_revision_number:1|show_window:True|notes:\x5B\x5D]

Select objects to measure:id_objects

Method to determine neighbors:Expand until adjacent

Neighbor distance:0

Retain the image of objects colored by numbers of neighbors for use later in the pipeline (for example, in SaveImages)?:Yes

Name the output image:neighbors_color

Select colormap:Default

Retain the image of objects colored by percent of touching pixels for use later in the pipeline (for example, in SaveImages)?:No

Name the output image:PercentTouching

Select a colormap:Default

MeasureObjectSizeShape:[module_num:6|svn_version:\'1\'|variable_revision_number:1|show_window:True|notes:\x5B\x5D]

Select objects to measure:id_objects

Calculate the Zernike features?:No

SaveImages:[module_num:7|svn_version:\'10822\'|variable_revision_number:7|show_window:True|notes:\x5B\x5D]

Select the type of image to save:Objects

Select the image to save:=primauto_

Select the objects to save:id_objects

Select the module display window to save:4\x3A IdentifyPrimaryObjects

Select method for constructing file names:From image filename

Select image name for file prefix:loaded_images

Enter single file name:primauto_

Do you want to add a suffix to the image file name?:Yes

Text to append to the image name:_id_obj

Select file format to use:tif

Output file location:Default Output Folder\x7CNone

Image bit depth:8

Overwrite existing files without warning?:No

Select how often to save:Every cycle

Rescale the images? :No

Save as grayscale or color image?:Color

Select colormap:Default

Store file and path information to the saved image?:No

Create subfolders in the output folder?:No

SaveImages:[module_num:8|svn_version:\'10822\'|variable_revision_number:7|show_window:True|notes:\x5B\x5D]

Select the type of image to save:Image

Select the image to save:neighbors_color

Select the objects to save:None

Select the module display window to save:neigh_image
Select method for constructing file names:From image filename
Select image name for file prefix:loaded_images
Enter single file name:neighbor_objects_
Do you want to add a suffix to the image file name?:Yes
Text to append to the image name: _neighbor_obj
Select file format to use:tif
Output file location:Default Output Folder\x7CNone
Image bit depth:16
Overwrite existing files without warning?:No
Select how often to save:Every cycle
Rescale the images? :No
Save as grayscale or color image?:Grayscale
Select colormap:Default
Store file and path information to the saved image?:No
Create subfolders in the output folder?:No

SaveImages:[module_num:9|svn_version:\'10822\'|variable_revision_number:7
|show_window:True|notes:\x5B\x5D]

Select the type of image to save:Image
Select the image to save:outline_image
Select the objects to save:None
Select the module display window to save:None
Select method for constructing file names:From image filename
Select image name for file prefix:loaded_images
Enter single file name:OrigBlue
Do you want to add a suffix to the image file name?:Yes
Text to append to the image name: _outline
Select file format to use:tif
Output file location:Default Output Folder\x7CNone
Image bit depth:16
Overwrite existing files without warning?:No
Select how often to save:Every cycle
Rescale the images? :No
Save as grayscale or color image?:Grayscale
Select colormap:Default
Store file and path information to the saved image?:No
Create subfolders in the output folder?:No

ExportToSpreadsheet:[module_num:10|svn_version:\'10880\'|variable_revision_number:7|show_window:True|notes:\x5B\x5D]

Select or enter the column delimiter:Comma (",")
Prepend the output file name to the data file names?:Yes
Add image metadata columns to your object data file?:Yes
Limit output to a size that is allowed in Excel?:No
Select the columns of measurements to export?:Yes
Calculate the per-image mean values for object measurements?:Yes
Calculate the per-image median values for object measurements?:Yes
Calculate the per-image standard deviation values for object
measurements?:Yes
Output file location:Default Output Folder\x7C.
Create a GenePattern GCT file?:No
Select source of sample row name:Metadata
Select the image to use as the identifier:None

Select the metadata to use as the identifier:None
Export all measurements, using default file names?:No
Press button to select measurements to
export:Image\x7CCount_id_objects,Image\x7CGroup_Index,Image\x7CGroup_Number,Image\x7CExecutionTime_03ImageMath,Image\x7CExecutionTime_07SaveImages,Image\x7CExecutionTime_06MeasureObjectSizeShape,Image\x7CExecutionTime_04IdentifyPrimaryObjects,Image\x7CExecutionTime_02ColorToGray,Image\x7CExecutionTime_05MeasureObjectNeighbors,Image\x7CExecutionTime_09SaveImages,Image\x7CExecutionTime_08SaveImages,Image\x7CExecutionTime_01LoadImages,Image\x7CMD5Digest_loaded_images,Image\x7CFileName_loaded_images,Image\x7CScaling_loaded_images,Image\x7CModuleError_03ImageMath,Image\x7CModuleError_07SaveImages,Image\x7CModuleError_06MeasureObjectSizeShape,Image\x7CModuleError_04IdentifyPrimaryObjects,Image\x7CModuleError_02ColorToGray,Image\x7CModuleError_05MeasureObjectNeighbors,Image\x7CModuleError_09SaveImages,Image\x7CModuleError_08SaveImages,Image\x7CModuleError_01LoadImages,Image\x7CPathName_loaded_images,Image\x7CThreshold_OrigThreshold_id_objects,Image\x7CThreshold_SumOfEntropies_id_objects,Image\x7CThreshold_WeightedVariance_id_objects,Image\x7CThreshold_FinalThreshold_id_objects,id_objects\x7CNeighbors_SecondClosestDistance_Expanded,id_objects\x7CNeighbors_FirstClosestDistance_Expanded,id_objects\x7CNeighbors_FirstClosestObjectNumber_Expanded,id_objects\x7CNeighbors_SecondClosestObjectNumber_Expanded,id_objects\x7CNeighbors_PercentTouching_Expanded,id_objects\x7CNeighbors_NumberOfNeighbors_Expanded,id_objects\x7CNeighbors_AngleBetweenNeighbors_Expanded,id_objects\x7CAreaShape_Perimeter,id_objects\x7CAreaShape_Orientation,id_objects\x7CAreaShape_Area,id_objects\x7CAreaShape_Solidity,id_objects\x7CAreaShape_EulerNumber,id_objects\x7CAreaShape_Compactness,id_objects\x7CAreaShape_Extent,id_objects\x7CAreaShape_Eccentricity,id_objects\x7CAreaShape_FormFactor,id_objects\x7CAreaShape_MinorAxisLength,id_objects\x7CAreaShape_MajorAxisLength,id_objects\x7CAreaShape_Center_X,id_objects\x7CAreaShape_Center_Y,id_objects\x7CLocation_Center_X,id_objects\x7CLocation_Center_Y,id_objects\x7CNumber_Object_Number
Data to export:Image
Combine these object measurements with those of the previous object?:No
File name:id_objects.csv
Use the object name for the file name?:Yes
Data to export:Experiment
Combine these object measurements with those of the previous object?:No
File name:inc_id_objects.csv
Use the object name for the file name?:Yes
Data to export:id_objects
Combine these object measurements with those of the previous object?:No
File name:DATA.csv
Use the object name for the file name?:Yes