

MetaXpress Analysis Taskbar User Guide

Version 6.2

Contents

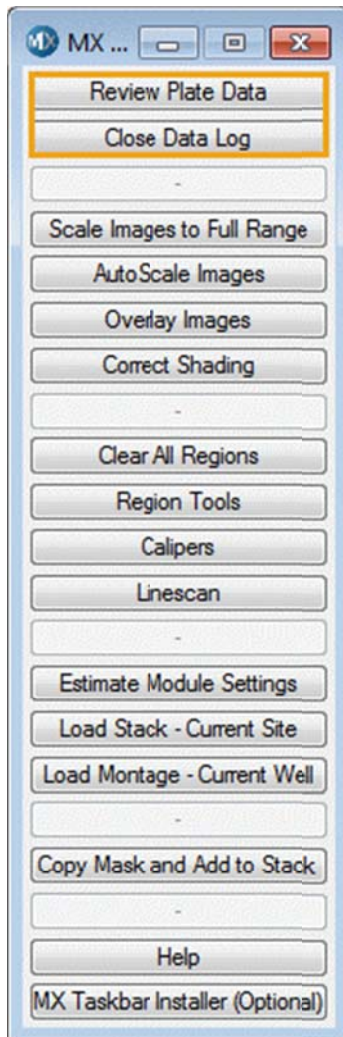
1. Introduction.....	3
2. Taskbar Functions.....	3
a. Review Plate Data	4
b. Close Data Log	4
c. Scale Images to Full Range	5
d. AutoScale Images	5
e. Overlay Images.....	6
f. Correct Shading.....	6
g. Clear All Regions.....	7
h. Region Tools.....	7
i. Calipers.....	7
j. LineScan	7
k. Estimate Module Settings.....	8
l. Load Stack – Current Site.....	10
m. Load Montage – Current Well	10
n. Copy Mask and Add to Stack	11
o. Help	15
p. MX Taskbar Installer (Optional).....	16

1. Introduction

This guide provides instructions on how to use the optional MetaXpress Analysis Taskbar (“MX Analysis Taskbar”). The MX Analysis Taskbar is an organized collection of tools intended to enhance and/or streamline common tasks and user workflows for reviewing and analyzing images from an ImageXpress high-content screening system.

2. Taskbar Functions

Each individual function is described below in this guide. Unlike the ImageXpress taskbar, there is no navigation to other taskbars. All functions are contained in this single taskbar.



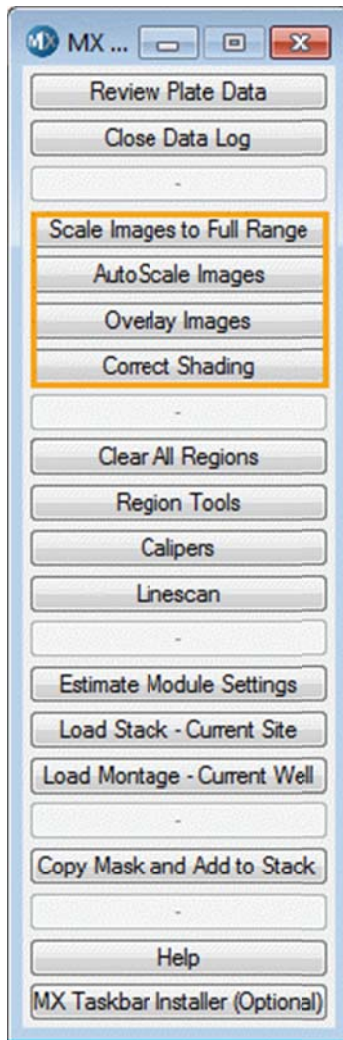
a. Review Plate Data

Opens the Review Plate Data dialog, which allows you to review plate and slide images.

b. Close Data Log

If you have clicked on the **Open Log** button in Review Plate Data to quickly export data to Excel or a text file, the data log will remain open until you close it. This may cause you to accidentally write extraneous data to the log as you test analysis settings. The **Close Data Log** button is a quick way to close the connection to the log.

Note: After closing, if you then reopen the data log and choose to write to the same sheet name or same text file, you may overwrite the existing data.



c. Scale Images to Full Range

Click this to set all open images to full scaling (brightness/contrast), which will be based on a 0-4095 scale for 12-bit cameras (IX Nano and IX Micro Standard) or 0-65535 scale for 16-bit cameras (IX Micro Confocal, IX Micro 4, IX Micro XLS, IX Micro XL).

d. AutoScale Images

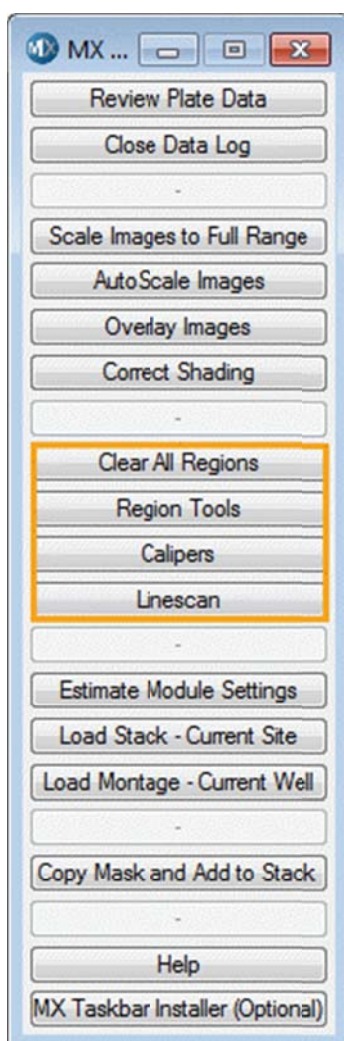
Click this to set all open images to auto scaling (brightness/contrast), which will be based on the content of the image. Auto scaling enhances the appearance of the objects in the image but makes it more difficult to compare intensity of one image to another.

e. Overlay Images

If there are images open named “Red”, “Green”, and “Blue”, this will automatically overlay them into an RGB image. Otherwise, it will open the Overlay Images dialog, which is recommended for creating presentation-quality color overlays.

f. Correct Shading

This function performs legacy shading correction on an image post-acquisition. You must have both the image to be corrected and the shading correction image open in MetaXpress.



g. Clear All Regions

This clears all regions from the current image. This is the same function found in the Regions menu.

h. Region Tools

This opens the Region Tools toolbar for manually creating regions, which is helpful if the toolbar is not currently visible.

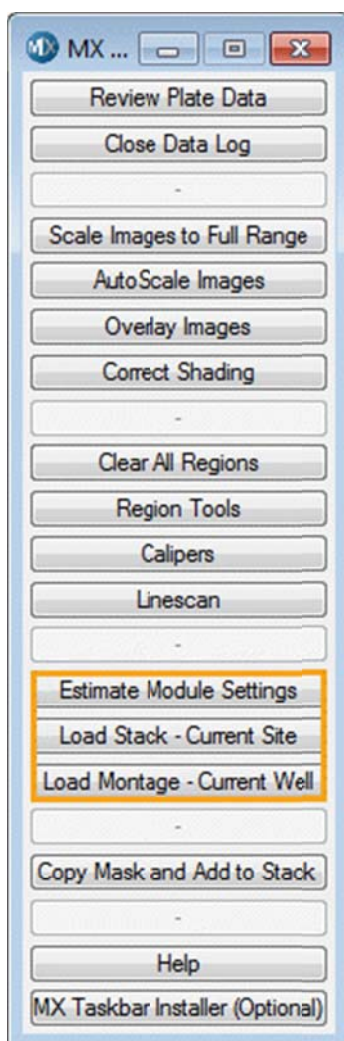


i. Calipers

This opens the Calipers tool for manually measuring the size of an object, which may be helpful when configuring analysis settings.

j. LineScan

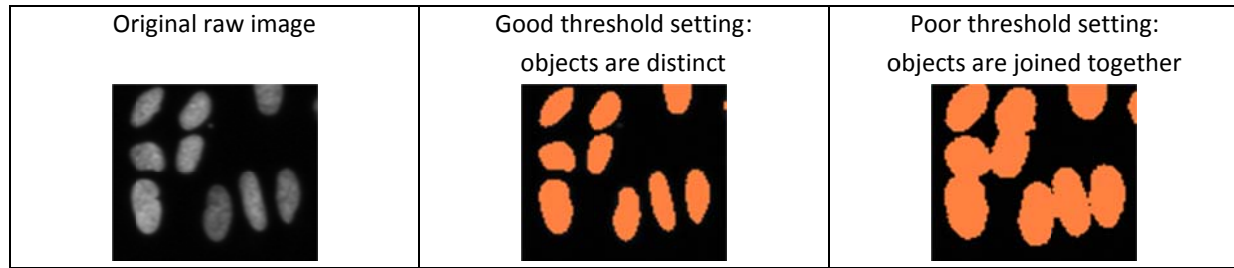
This opens the LineScan graph to quickly view the intensities along a line drawn on the current image. Use the line region tool to draw a new line. This is helpful for quickly estimating the intensity of an object and its local background, which may be helpful when configuring analysis settings.



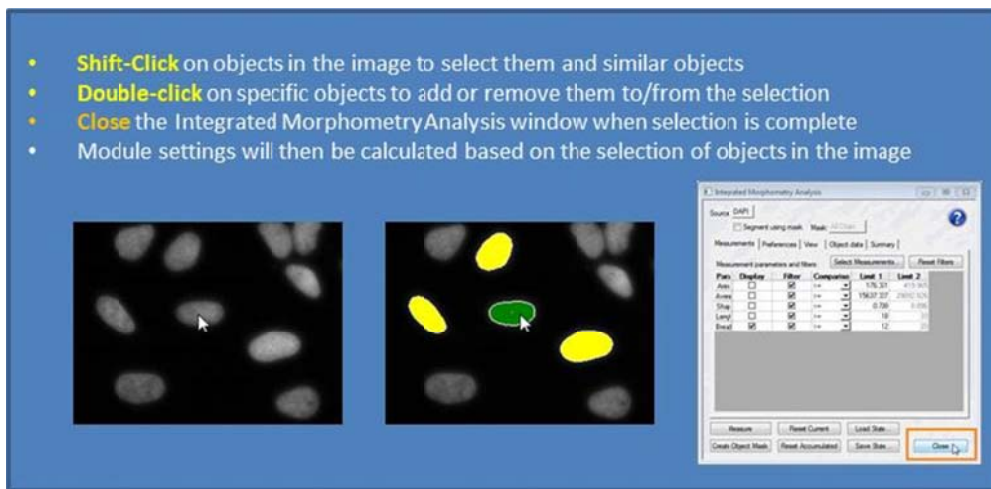
k. Estimate Module Settings

Use this tool to help estimate analysis settings to use in the application modules. It measures width, area, and intensity of objects in the selected image. There are two options: interactive mode (similar to the “Click to Find” tool in the Custom Module Editor) and the automatic mode (only recommended for very simple images such as bright beads on a dark background).

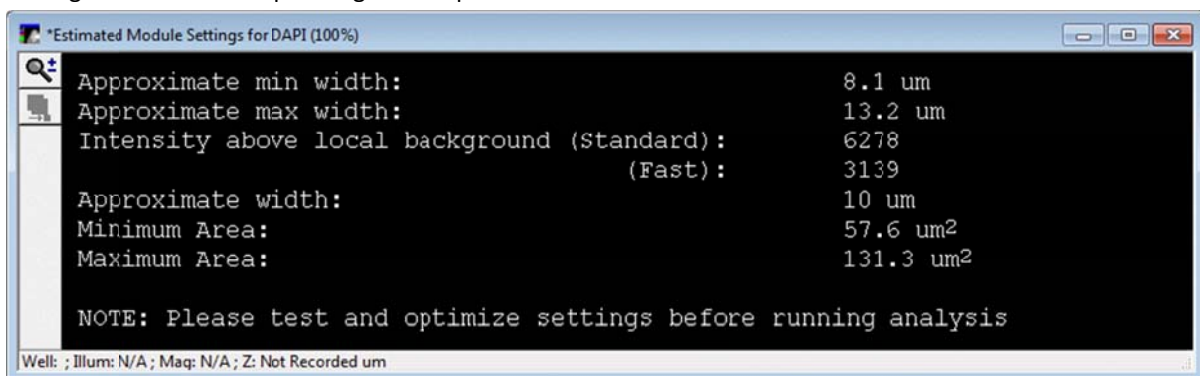
In interactive mode, after selecting the image to measure, adjust the threshold so that objects are distinct.



In the next step, shift-click on individual objects to select them and objects similar to them. You do not need to select all of the objects, just a representative sample (e.g large and small cells, bright and dim cells). When you have selected enough cells, close the Integrated Morphometry Analysis window.



A window will now appear with recommended settings to start with for your application module. Test the settings on several example images and optimize as needed.



l. Load Stack – Current Site

This button will load image stacks for a timelapse or Z series plate for the current well/site/wavelengths being reviewed. With this option, you can stay in the “Well arrangement” view and still load the stacks.

To use this, you must have full-resolution single-wavelength images open from the currently selected plate in Review Plate Data. This tool will detect which well/site and wavelengths you are currently viewing, and load the appropriate stack for each wavelength.

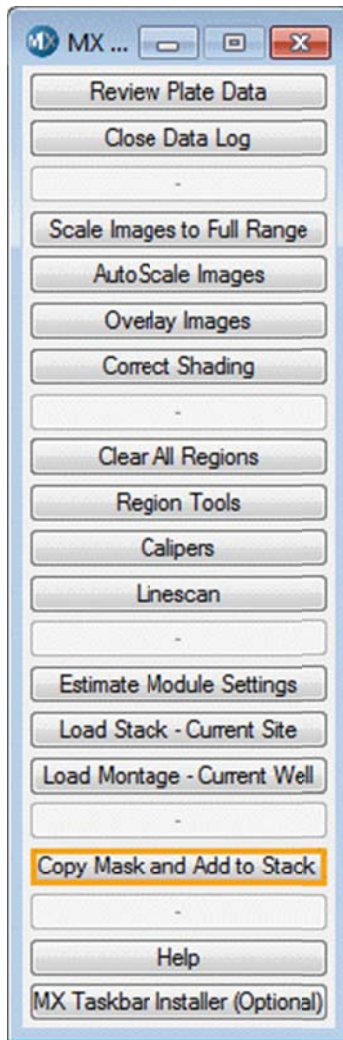
It will not work if the Color Composite option is enabled in Review Plate Data > Display, or if there are no full-resolution images open. Images must have the stage label information, so images imported from another microscope might not work.

m. Load Montage – Current Well

This button will create a montage(s) for a timelapse or Z series plate for the current well/wavelengths being reviewed.

To use this, you must have full-resolution images open from the currently selected plate in Review Plate Data. This tool will detect which well and wavelengths you are currently viewing, and create the appropriate montage for each wavelength, tiling or stitching as appropriate. If the images are from a timelapse or Z series experiment, the montage created will be from the current time point or Z plane being viewed.

It will not work if the Color Composite option is enabled in Review Plate Data > Display, or if there are no full-resolution images open. Images must have the stage label and stage position information, so images imported from another microscope might not work.



n. Copy Mask and Add to Stack

Use this tool to quickly extract segmentation masks saved to the database from a standard or custom module analysis.

In Review Plate Data, select your plate of interest. On the Measurements tab, select the Measurement Set of interest (if plate was analyzed multiple times).

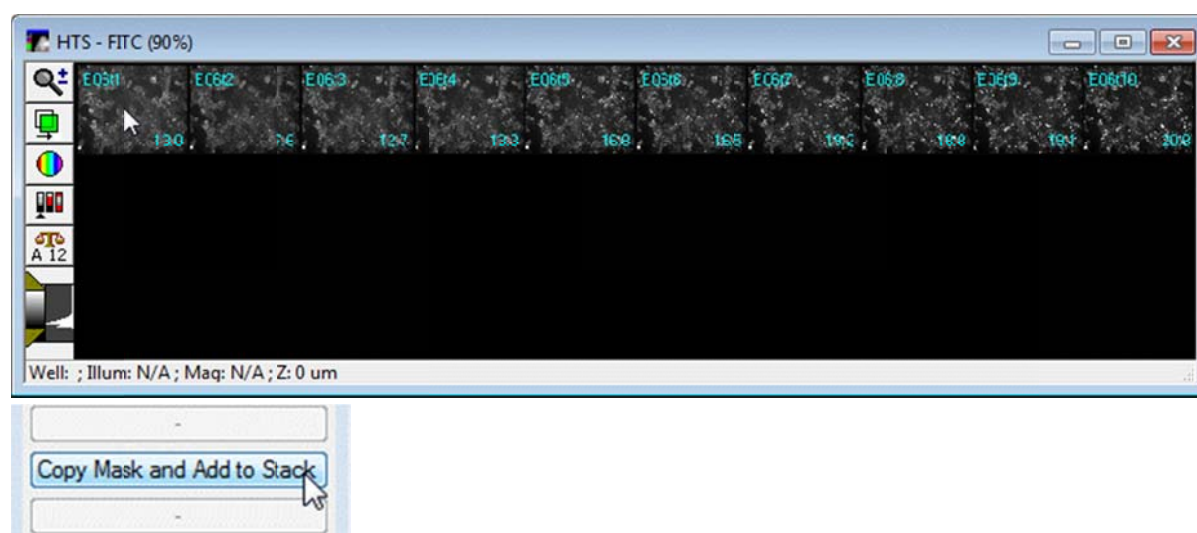
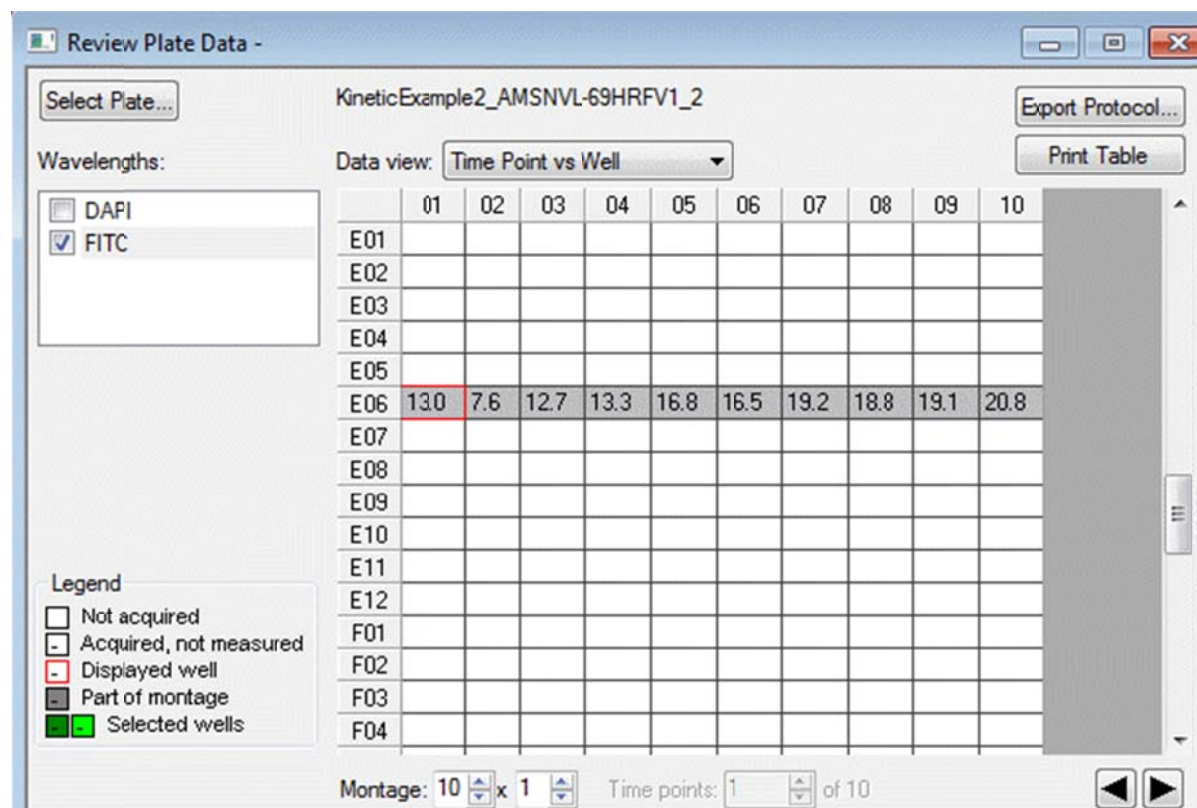
Set up the montage appropriately. If you want to retrieve masks from multiple time points, use the “Time vs Well” view, or use the “Z vs Well” view to retrieve masks from multiple Z planes.

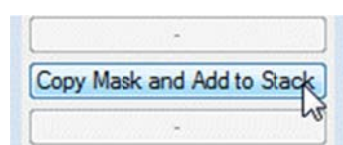
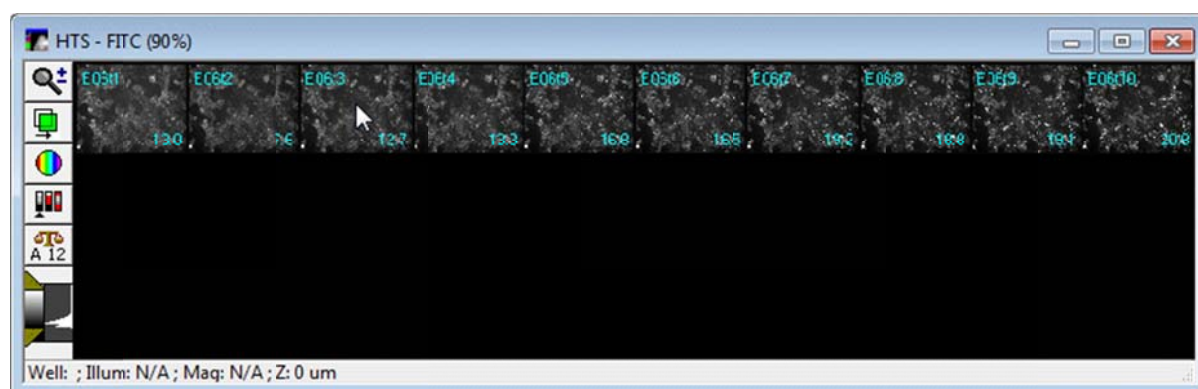
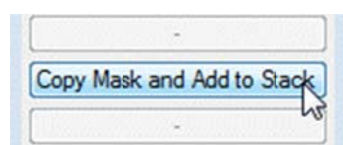
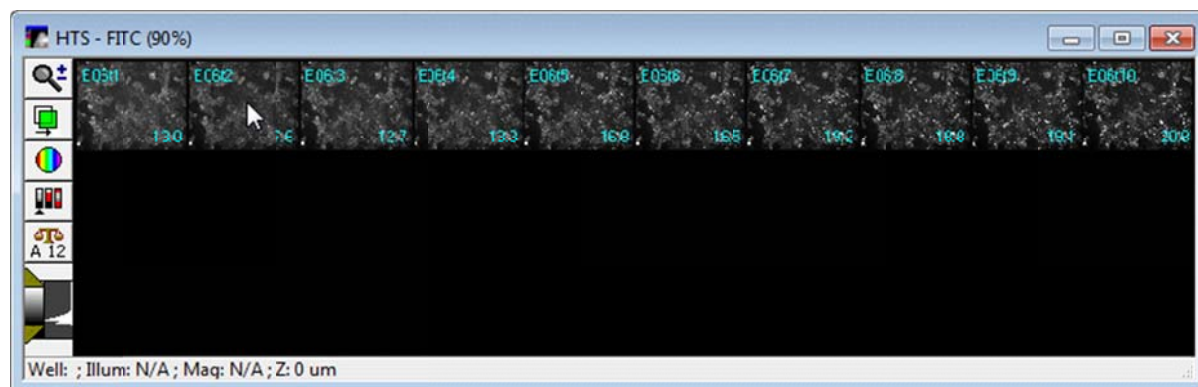
Identify a wavelength to save the overlays from. It is recommended to temporarily close the other wavelengths to reduce the number of windows open in MetaXpress.

In the desired order, click on the thumbnail, then click on the Copy Mask and Add to Stack button. Repeat for all images that you want to retrieve masks from.

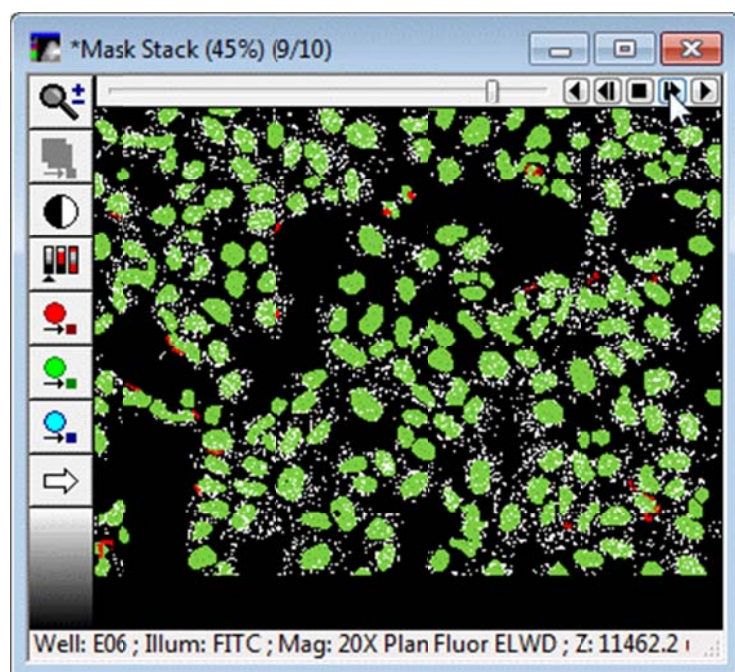
When you are done, review the resulting “Mask Stack”.

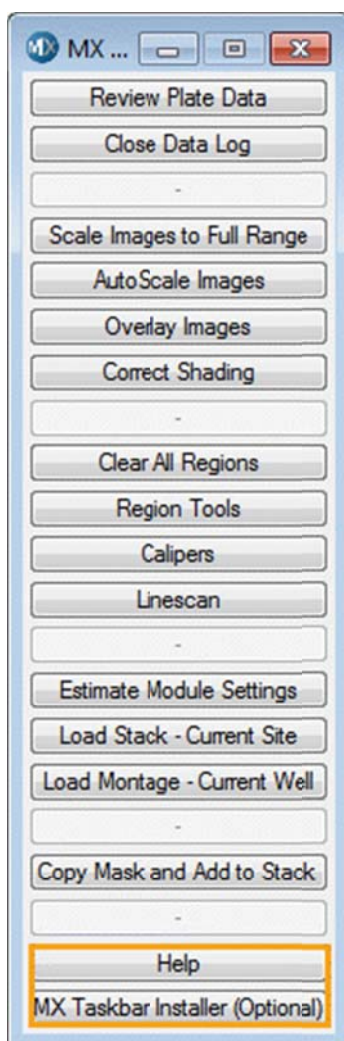
Save it with a different name if you want to create another set; otherwise, the next set will keep adding to the same “Mask Stack”.





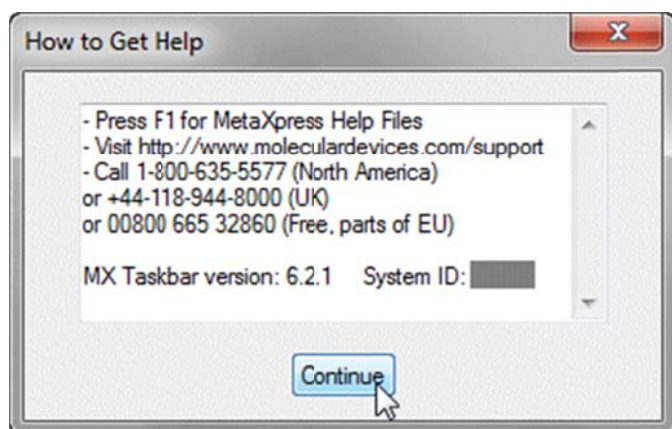
Repeat for other time points / sites / Z planes as desired. The resulting masks will be in a stack, in the order they were copied.





o. Help

Clicking **Help** opens a dialog with basic help information, the taskbar version number, and the system ID.



p. MX Taskbar Installer (Optional)

Typically, the installer only needs to be run when the taskbar is initially installed. For more information, consult the **MX Analysis taskbar v6-2 installation guide**.