



MetaXpress[®] 6 Software Guide

Review Plate Data Interface

Date Revised 6/24/15 Version B



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Chapter Purpose

The purpose of this chapter is to guide the user through the **Review Plate Data** interface. This chapter explains the components of the interface and how to navigate within the dialog.

This chapter will not cover adjusting image display or setting up and running an image analysis protocol. For these instructions and more detail on the **Review Plate Data dialog**, refer to corresponding chapters.

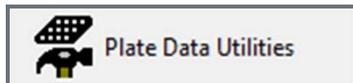


Review Plate Data Dialog

Review Plate Data is the dialog used for viewing acquired images, configuring and running analysis, and viewing analysis results for a single plate of images.

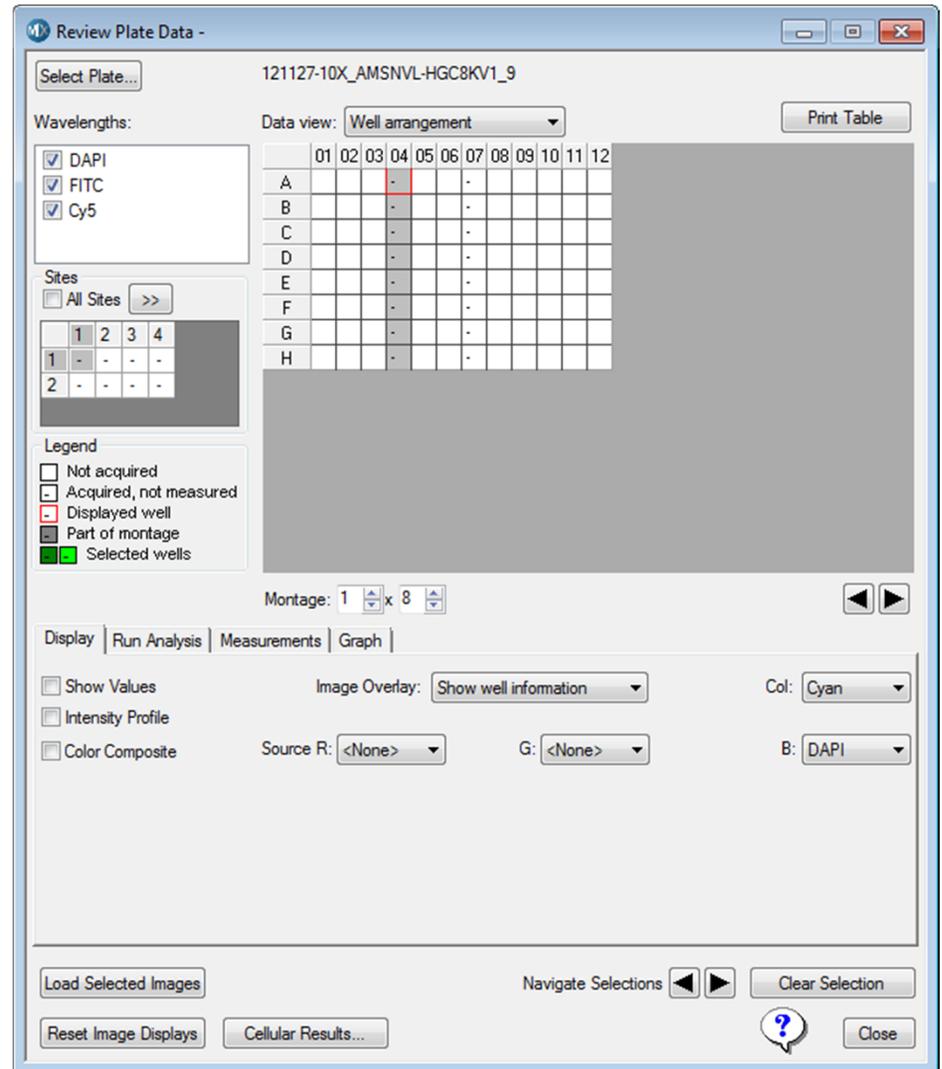
Open Review Plate Data

- In the main toolbar click on



OR

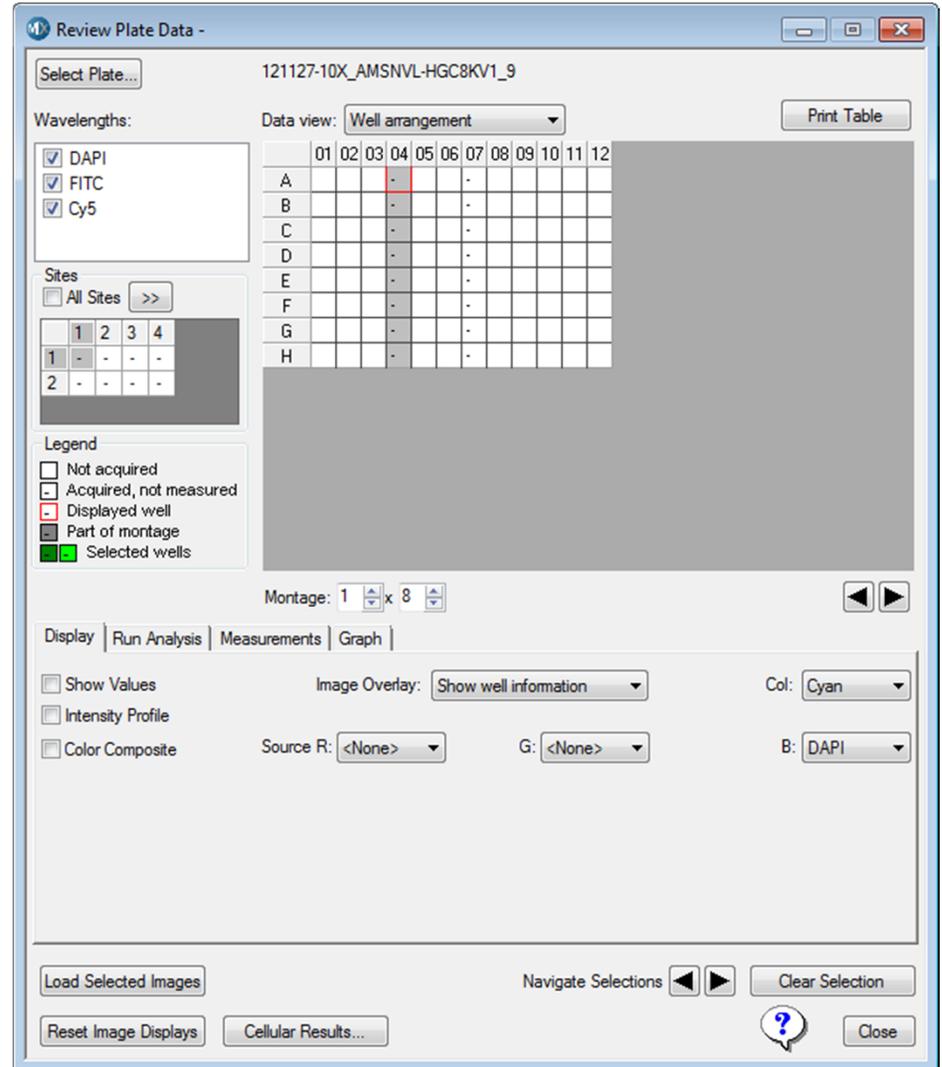
- Under the **Screening** menu, select **Review Plate Data**



Review Plate Data Dialog

There are multiple forms of interaction within this dialog:

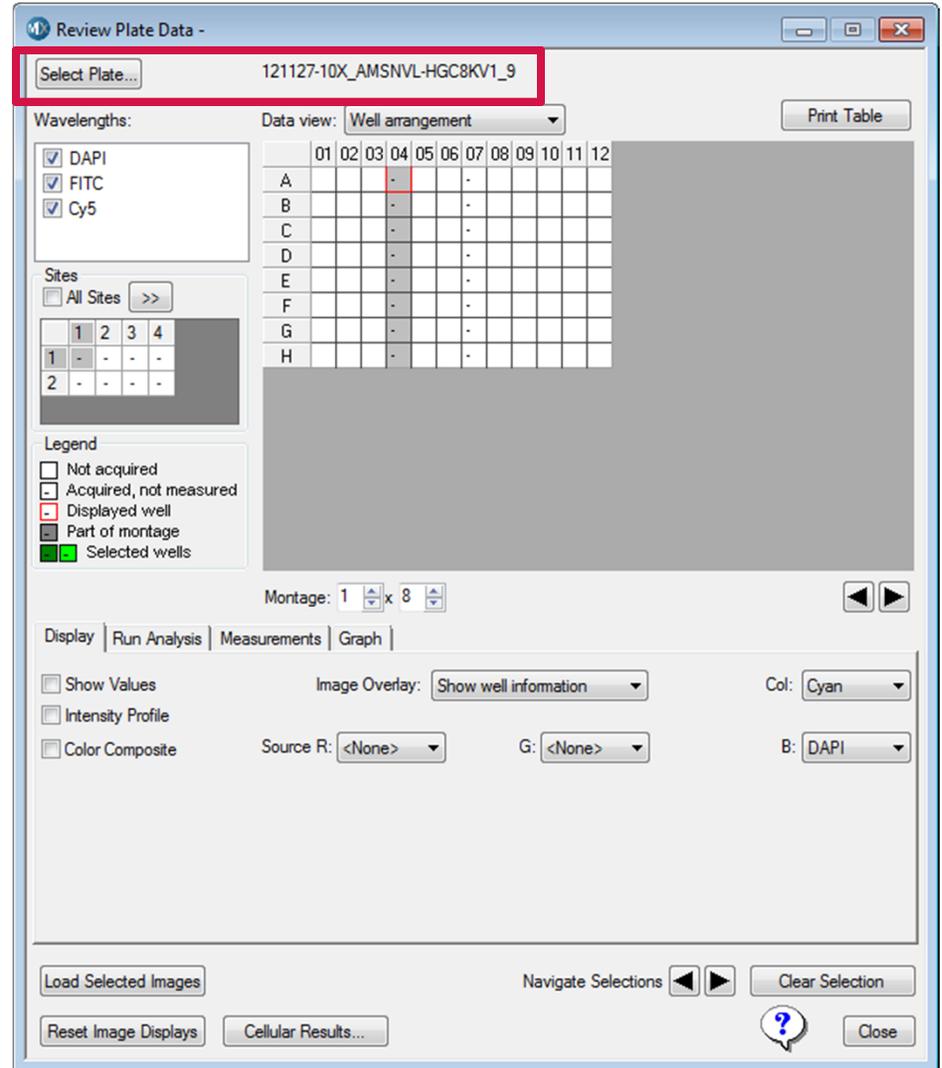
- Select **tabs** to access and configure specific types of settings
- Click on **buttons** to enable the specified action
- Select choices from **drop-down menus**
- Enter numerical values into **spin boxes**
- **Left-click** and **Right-click** to select items



Review Plate Data Dialog

To view images from an acquired plate:

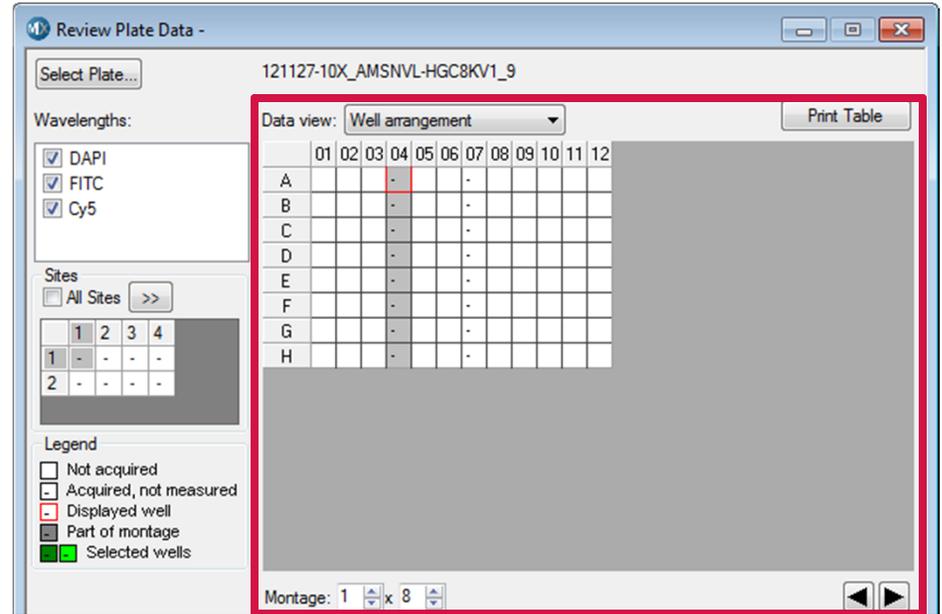
- Click on the **Select Plate** button to navigate the database folder view and choose a plate
- The plate name is shown to the right of the **Select Plate** button



Review Plate Data Dialog

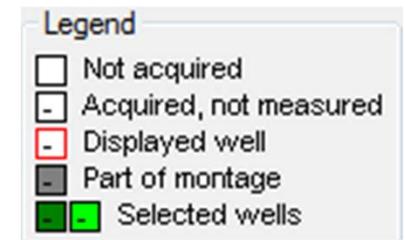
Plate view

- Shows a grid of all wells in the selected plate
- Default view is **Well arrangement** in the form of plate format (96, 384, etc.).
- **Montage** is number of wells (columns and rows) highlighted in grey that will appear in the thumbnail montage of images
- Arrows move montage selection (grey highlight) to next group of wells



Legend

- Empty well means no images acquired
- Dash represents a well containing image(s)
- Grey highlight represents wells selected for viewing in thumbnail montage
- Red outline represents images displayed in high resolution
- Green highlight is for wells selected (right-click)



Review Plate Data Dialog

If **Well arrangement** is selected under **Data view** for Timelapse and Z Series image sets:

- A single Time point or Z Step is displayed plate format
- Select the **Time point** or **Z step** to view using the spin box below the plate view
- For Z Series, check **2D projection** to view the saved projection image (max projection, best focus, etc.) for the chosen wells.

Data view: Well arrangement Print Table

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A																								
B																								
C																								
D																								
E																								
F																								
G																								
H																								
I																								
J																								
K																								
L																								
M																								
N																								
O																								
P																								

Montage: 2 x 2 Time points: 1 of 20 ◀ ▶

Data view: Well arrangement Print Table

	01	02	03	04	05	06	07	08	09	10	11	12
A												
B												
C												
D												
E												
F												
G												
H												

Montage: 2 x 2 Z steps: 1 of 17 2D projection ◀ ▶



Review Plate Data Dialog

Alternate Data views:

- **Time Point vs Well:** For Timelapse images, columns are time points and rows are wells in the plate
- **Z Step vs Well:** For Z Series images, columns are Z-steps and rows are wells in plate

42um10xMPandZAutoShadingOn_AMSNVL-FDJRFV1_2

Wavelengths:
 DAPI
 FITC
 TEXASRED

Legend
 Not acquired
 Acquired, not measured
 Displayed well
 Part of montage
 Selected wells

Data view: Z Step vs Well

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
A01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A02																
A03																
A04																
A05																
A06																
A07																
A08																
A09																
A10																
A11																
A12																
B01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B02																
B03																
B04																

Montage: 7 x 1 Z steps: 9 of 1E 2D projection

Review Plate Data -

Select Plate...

Wavelengths:
 DAPI
 FITC
 Cy3
 Cy5

Sites
 All Sites >>

Legend
 Not acquired
 Acquired, not measured
 Displayed well
 Part of montage
 Selected wells

Data view: Time Point vs Well

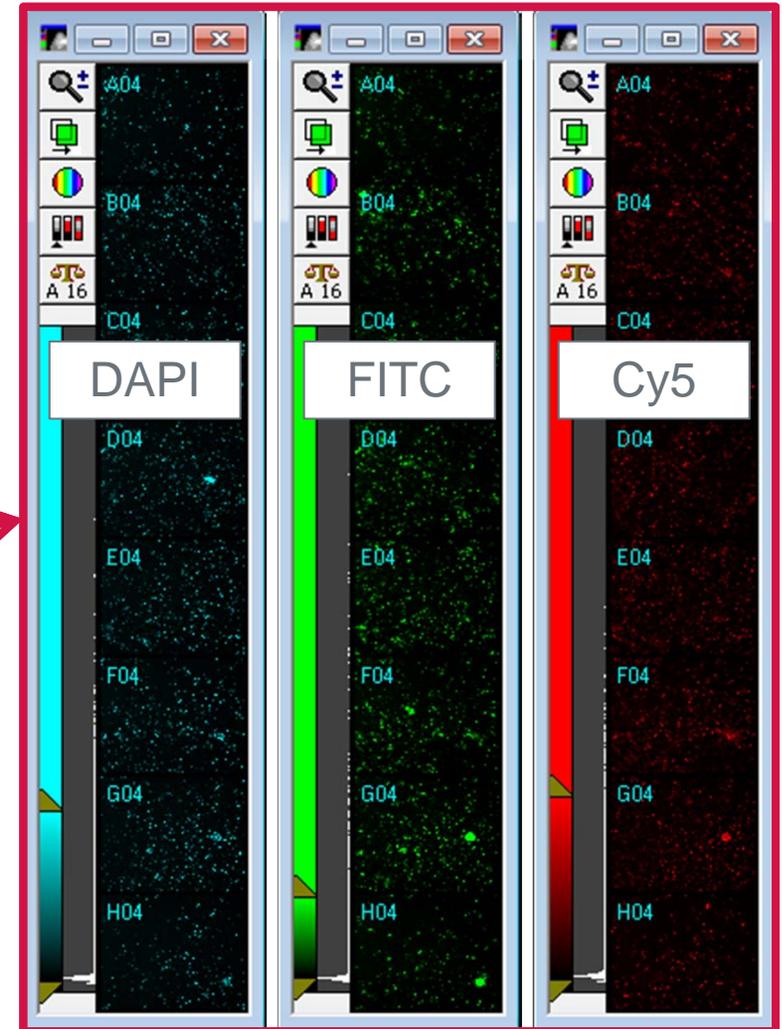
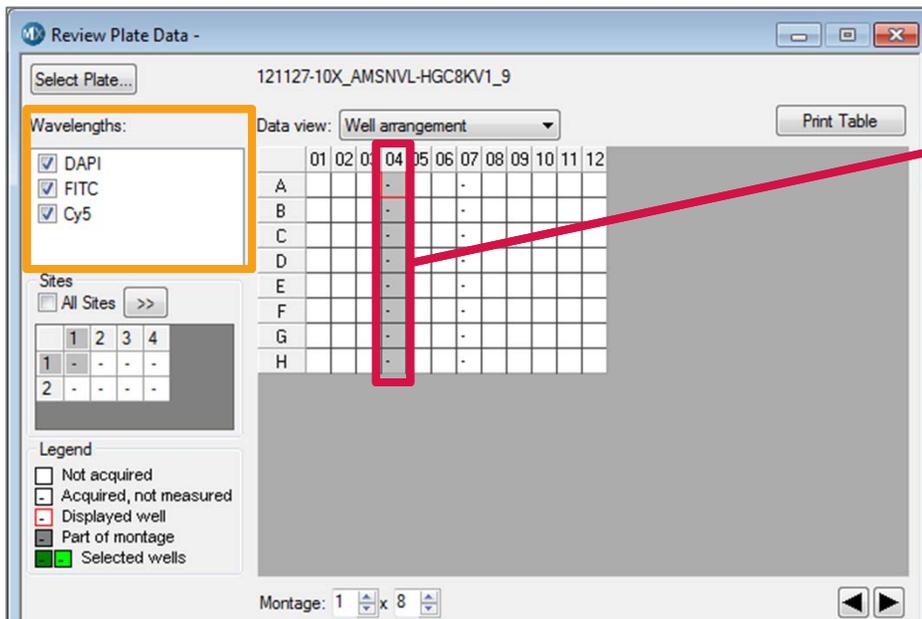
	01	02	03	04	05
A01	-	-	-	-	-
A02	-	-	-	-	-
A03	-	-	-	-	-
A04	-	-	-	-	-
A05	-	-	-	-	-
A06	-	-	-	-	-
A07					
A08					
A09					
A10					
A11					
A12					
B01	-	-	-	-	-
B02	-	-	-	-	-
B03	-	-	-	-	-
B04	-	-	-	-	-

Montage: 5 x 3 Time points: 1 of 5

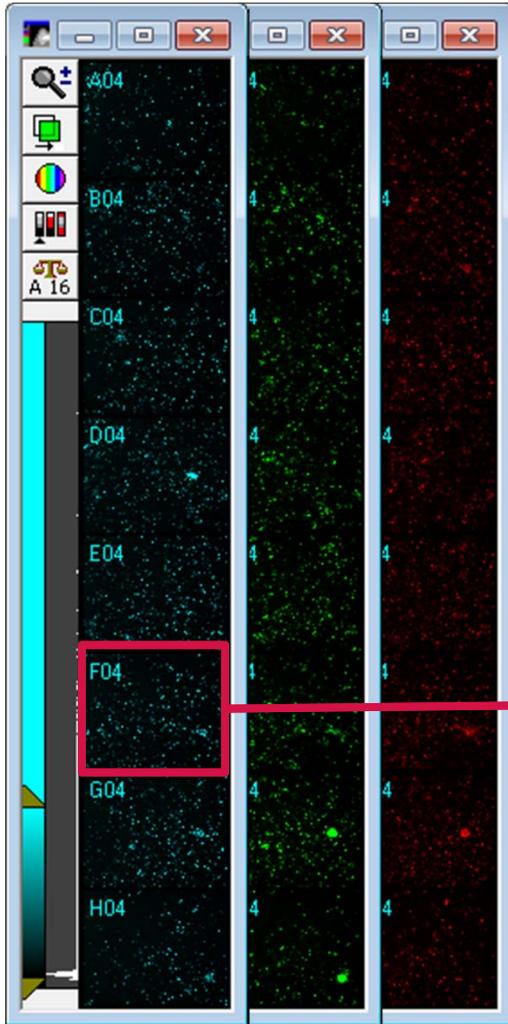


Review Plate Data Dialog

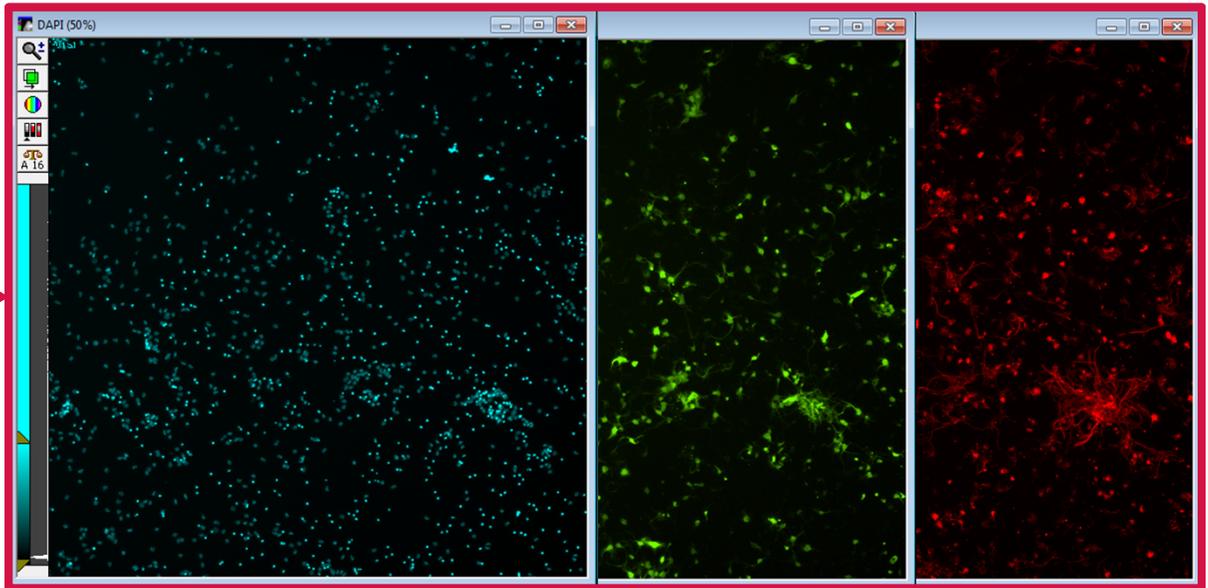
- Wells highlighted in **grey** are displayed as a low-resolution thumbnail montage.
- There is one set of thumbnail images for each wavelength shown in the **Wavelengths** box
- Only the selected (checked) wavelengths can be viewed



Review Plate Data Dialog



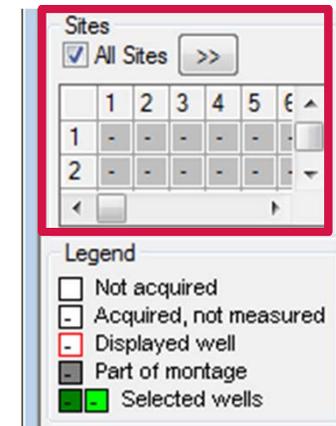
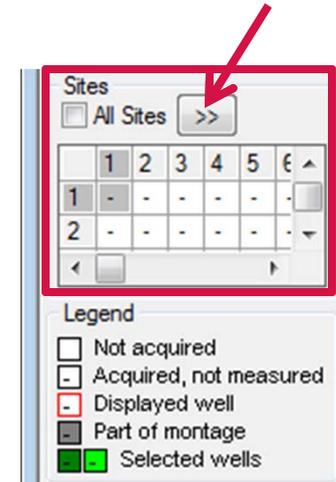
- Select a well in any thumbnail montage to open the full resolution images for that site/well
- Clicking on another site/well automatically updates the full resolution images



Review Plate Data Dialog

Sites view

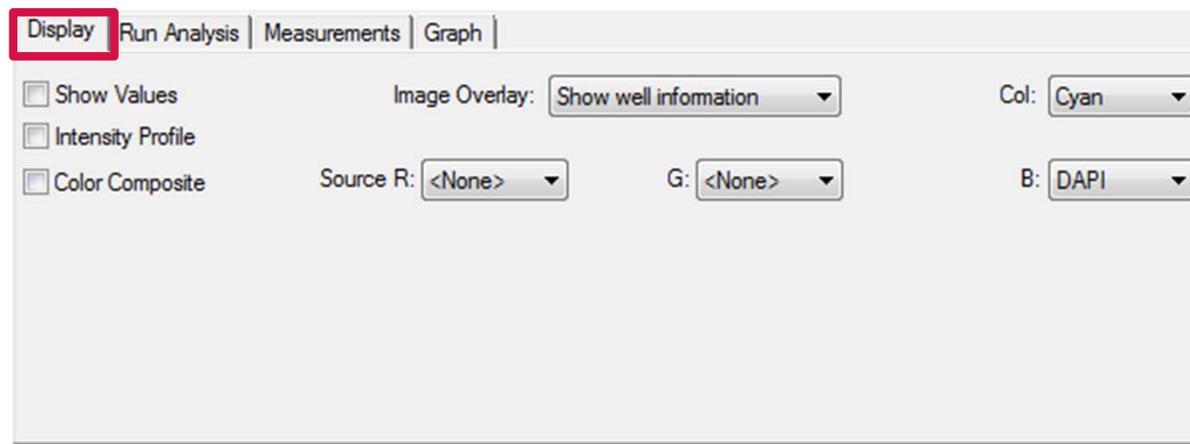
- Default view is single site with **All Sites** option unchecked
- Click on the **double arrow** button to view up to 9 columns
- Resize **Review Plate Data** dialog vertically to view more rows or use the scroll bars
- Currently viewed site in thumbnail montage is highlighted in **grey**
- Click on a different site to update the thumbnail montages
- Enable **All Sites** to show all sites at once in thumbnail montages



Review Plate Data Dialog

Display tab enables you to configure how images are displayed

- From the **Image Overlay** drop-down menu, select to display nothing, well information (well ID, site ID, analysis results, etc.), or cell segmentation
- Enable **Show Values** to display analysis results in the plate grid and on images
- Enable **Intensity profile** to change images to a topographical view of image intensity
- Enable **Color Composite** to view color overlay of up to 3 wavelengths (RGB)



Review Plate Data Dialog

Run Analysis tab enables you to configure and run analysis on the displayed plate

- Select **Analysis** routine (application module, custom module or journal) and **Settings** file from the drop-down menus
- Click on the **Configure settings** button to optimize settings for an application module or launch **Custom Module Editor** to create/adjust a custom module
- Click on the appropriate button to select which images to analyze (**All wells**, **Selected wells** or **Displayed site**)

Display **Run Analysis** Measurements | Graph |

Analysis: <Angiogenesis Tube Formation>

Settings: No Settings Configured

Setting description: Measures angiogenesis tube formation.

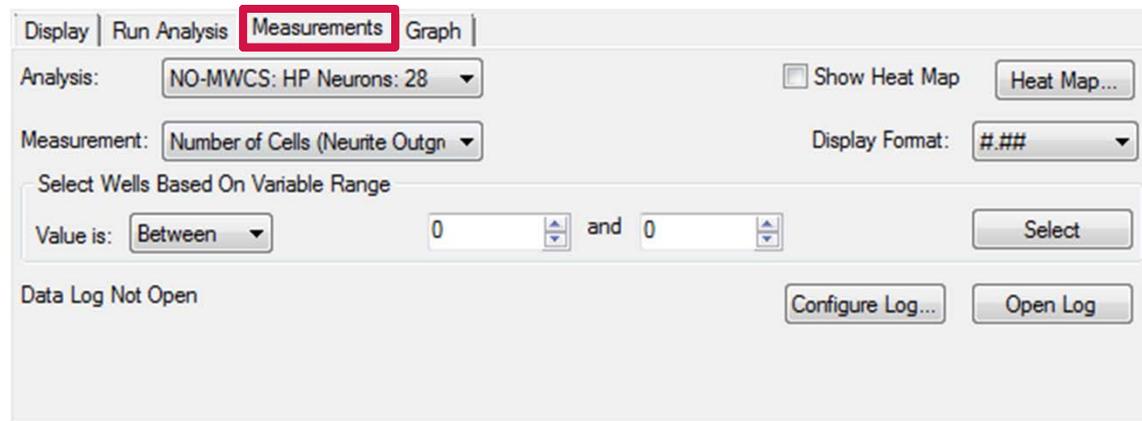
Log into the database



Review Plate Data Dialog

Measurements tab enables you to view image analysis results for the displayed plate

- Select the desired **Analysis** from the drop-down menu
- Select the **Measurement** from the drop-down menu to view in plate grid
 - If the measurement is preceded by “**Cell:**,” this indicates a cell-by-cell measurement and the values displayed are an average of all cells in the site/well
- Enable the **Heat Map** to display a color trend based on the values displayed in the plate grid. Configure the heat map by clicking on the **Heat Map** button
- Highlight values of interest in the plate grid by entering values in the spin boxes and clicking on **Select**
- **Log** analysis results to **Microsoft Excel** or a text file by clicking on **Open log..**



The screenshot shows the 'Measurements' tab of the 'Review Plate Data Dialog'. The 'Analysis' dropdown is set to 'NO-MWCS: HP Neurons: 28'. The 'Measurement' dropdown is set to 'Number of Cells (Neurite Outgr)'. The 'Show Heat Map' checkbox is unchecked. The 'Display Format' dropdown is set to '#.##'. The 'Select Wells Based On Variable Range' section has 'Value is:' set to 'Between', with two spin boxes both set to '0'. The 'Data Log Not Open' status is shown at the bottom, with 'Configure Log...' and 'Open Log' buttons.



Review Plate Data Dialog

Graph tab enables you to create and configure a graph from the analysis results for the displayed plate

- Select the appropriate **Analysis** from the drop-down menu
- Select the source of the data to be displayed (plate, single well, etc.)
- Select the type of **Graph type** (scatter plot or histogram) from the drop-down menu and specify the axes from the **Measurement** drop-down menu(s)
- Click on the **Show Graph** button to display the graph

Display | Run Analysis | Measurements | **Graph**

Analysis: NO-MWCS: HP Neurons: 28 ▼

Graph view:
 Plate Multiple graphs of displayed wells Single Well

Graph type: Measurement vs Well Num ▼ Measurement: Number of Cells (Neurite (▼

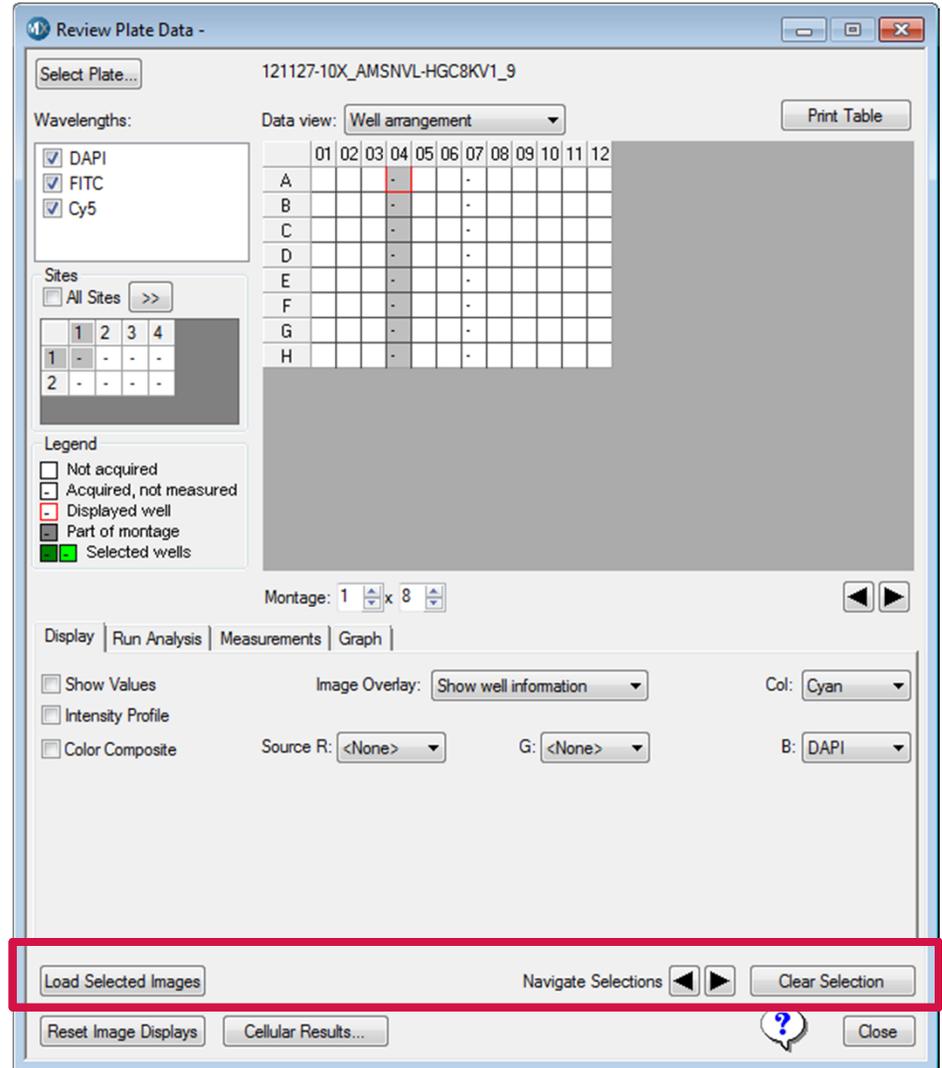
Set Display to Default Show Graph



Review Plate Data Dialog

Working with selected images (right-click to highlight in green)

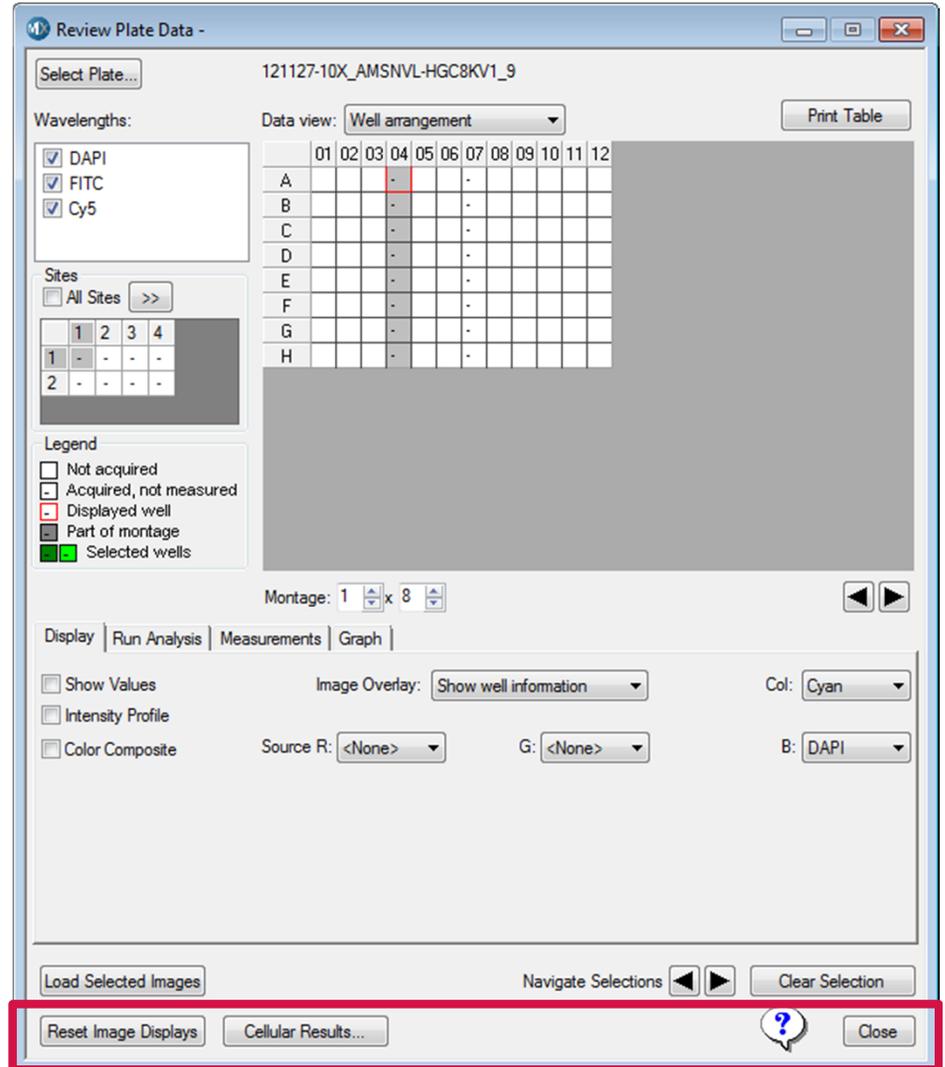
- **Load Selected Images** creates a stack of images from a well or site that has been highlighted in green
- **Navigate Selections** by clicking the black arrows to move to an adjacent well highlighted in green
- **Clear Selection** deselects (removes green highlighting from) all wells



Review Plate Data Dialog

Miscellaneous buttons

- **Reset Image Displays** returns image montages and high resolution images to software default display settings
- **Cellular Results** shows the cell-by-cell analysis results for well and site shown in the high resolution images
- **Close** exits the **Review Plate Data** dialog



Support Resources

- F1 / HELP within MetaXpress® Software
- Support and Knowledge Base: <http://mdc.custhelp.com/>
- User Forum: <http://metamorph.moleculardevices.com/forum/>
- Request Support: <http://mdc.custhelp.com/app/ask>
- Technical Support can also be reached by telephone:
 - 1 (800) 635-5577
 - Select options for Tech Support → Cellular Imaging Products → ImageXpress Instruments





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