



# MetaXpress® 6 Software Guide

## Batch Exporting Cell Measurements

Date Revised 06/30/15 Version A



# Chapter Purpose

The purpose of this chapter is to guide the user through batch exporting Cell (cell-by-cell) Measurements for one or more plates through the **Plate Data Utilities** dialog. Cell measurements refer to measurements regarding each cell found in the image (i.e. each cell's area, integrated intensity, average intensity, shape factor, etc.).

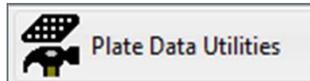
To batch export image (summary) data, refer to the corresponding chapter.



# Setting Up Export of Cell Measurements

## 1. Open **Plate Data Utilities**

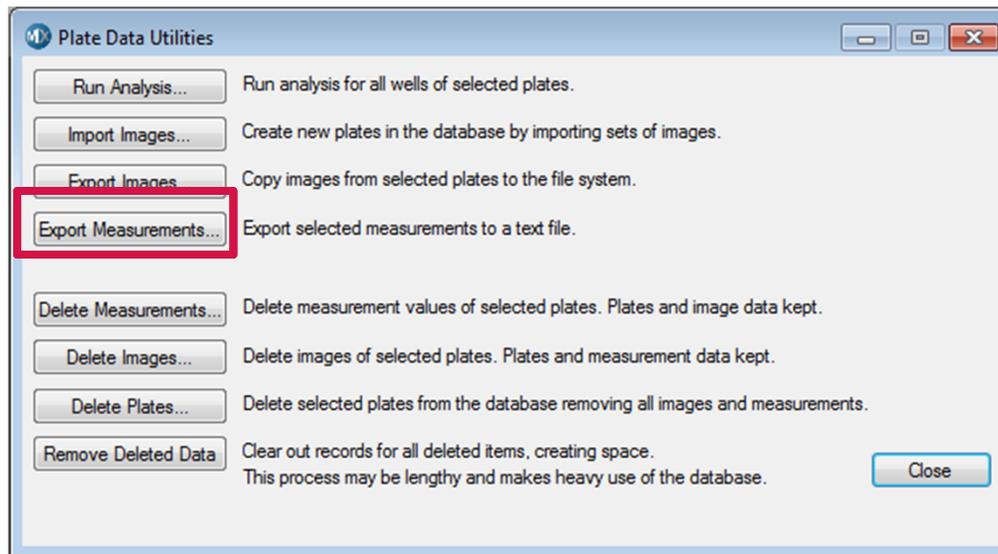
- In the main toolbar click on



OR

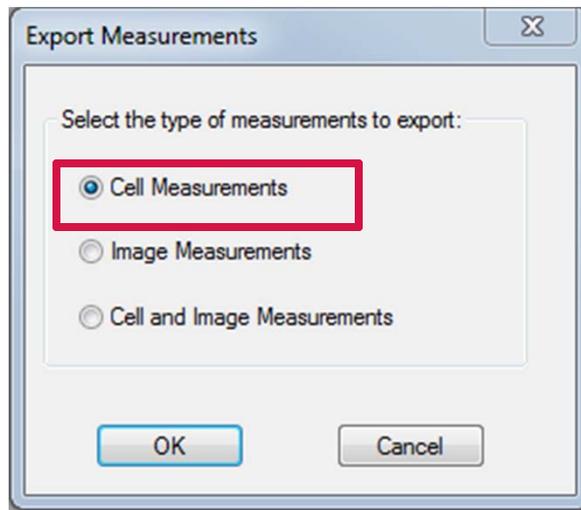
- Under the **Screening** menu, select **Plate Data Utilities**

## 2. Click on the **Export Measurements** button



# Setting Up Export of Cell Measurements

3. The **Export Measurements** dialog will appear
  - Select **Cell Measurements**
  - For **Image Measurements**, refer to corresponding chapter



# Setting Up Export of Cell Measurements

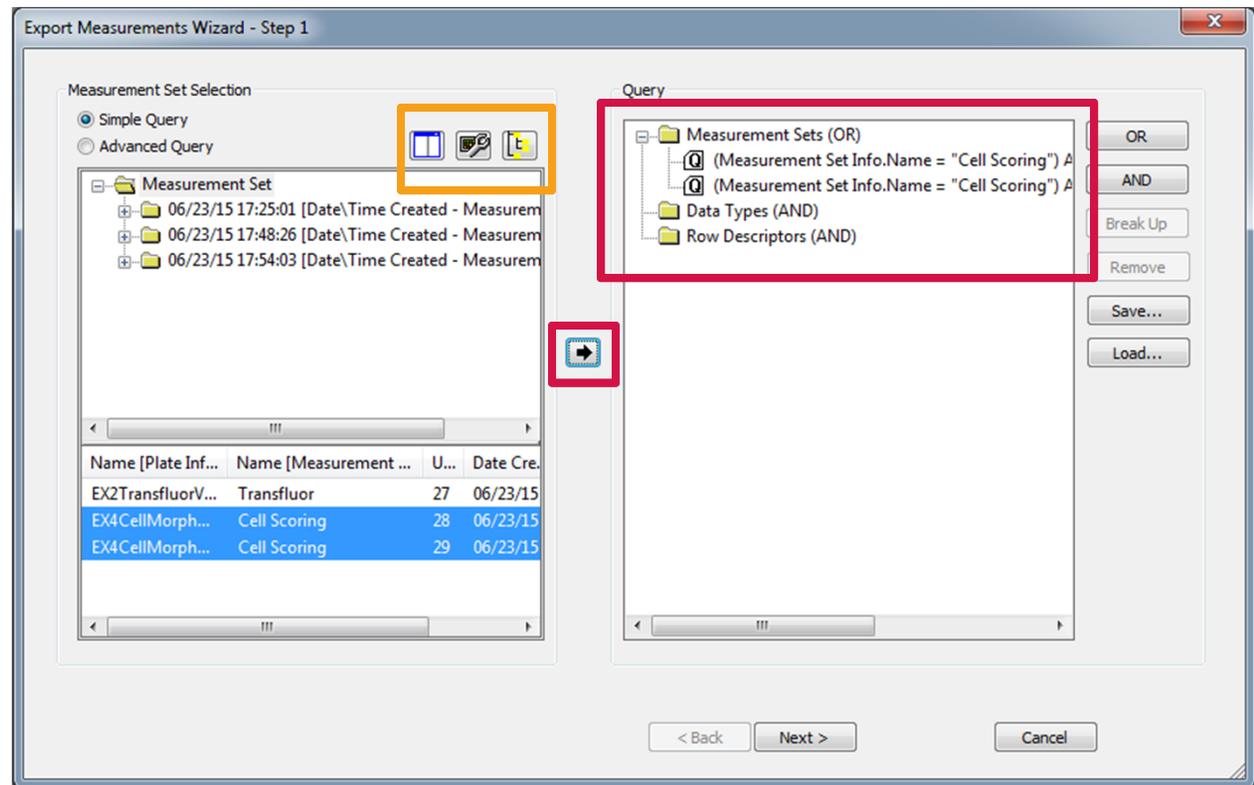
5. In the **Export Measurements Wizard – Step 1** dialog
  - Highlight the plate(s) of interest and double-click or click the black arrow to add them to the right-hand side pane
  - Click the **Next** button

\*NOTE\* You can use the Ctrl or Shift keys to select multiple plates.

Use the **Configure** icons to change:

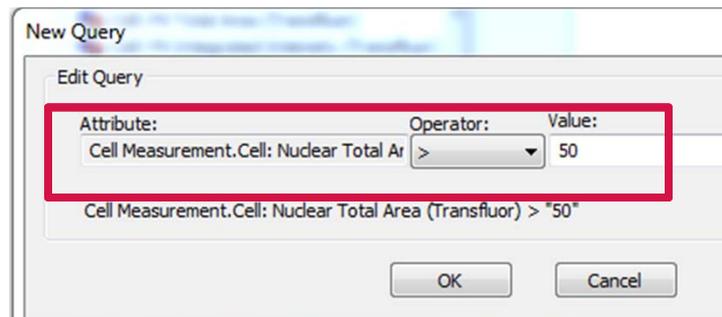
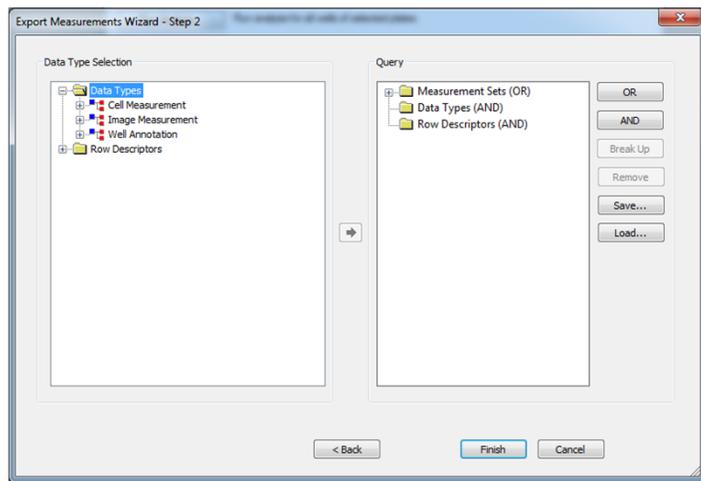
- Appearance of the Wizard
- How plates are organized and displayed in folders
- Identifiers shown for the measurement sets

\*NOTE\* Only plates that have been analyzed will appear in this dialog



# Setting Up Export of Cell Measurements

- In the **Export Measurements Wizard – Step 2** dialog you can filter data based on the measurements made in the analysis
  - Expand the **Data Types** folder (left hand pane)
  - Expand either the **Cell Measurement** or **Image Measurement** tree
  - Double-click on the measurement of interest and the **New Query** dialog will appear
  - Select an **Operator** from the drop-down menu and enter the desired value
  - Click **OK**. The output file will contain only measurements that meet the query
  - Repeat this process for any other measurements then click **Finish**
- If you do not wish to filter your data, skip Step 4 and click the **Finish** button

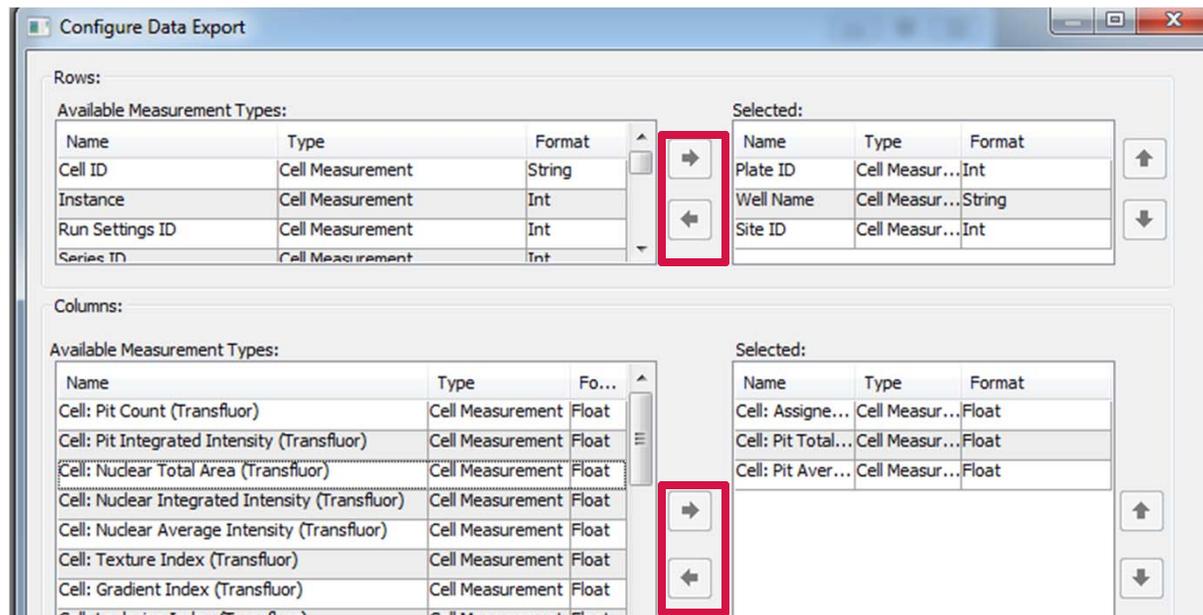


In the above example, only data from cells that have a nuclear area > 50  $\mu\text{m}^2$  will be included

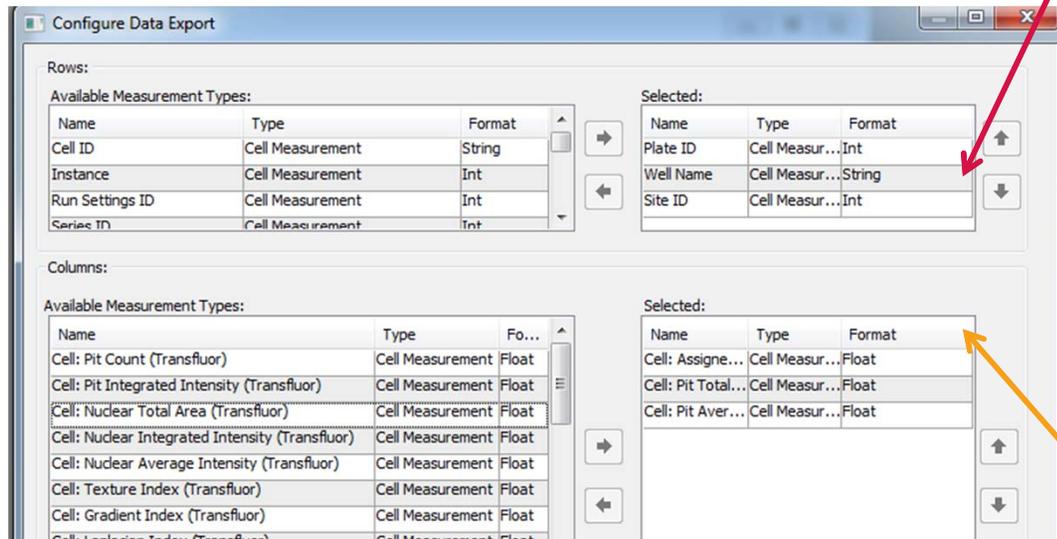


# Setting Up Export of Cell Measurements

6. In the **Configure Data Export** dialog, select how the rows and columns are organized
- Rows are organized based on plate information (i.e. Plate ID, Well ID, Site ID, etc.)
  - Columns are the measurements from the analysis completed on the plate
  - Double-click or highlight and use the arrow keys to move parameters from the left-hand panes to the right-hand panes



# Setting Up Export of Cell Measurements



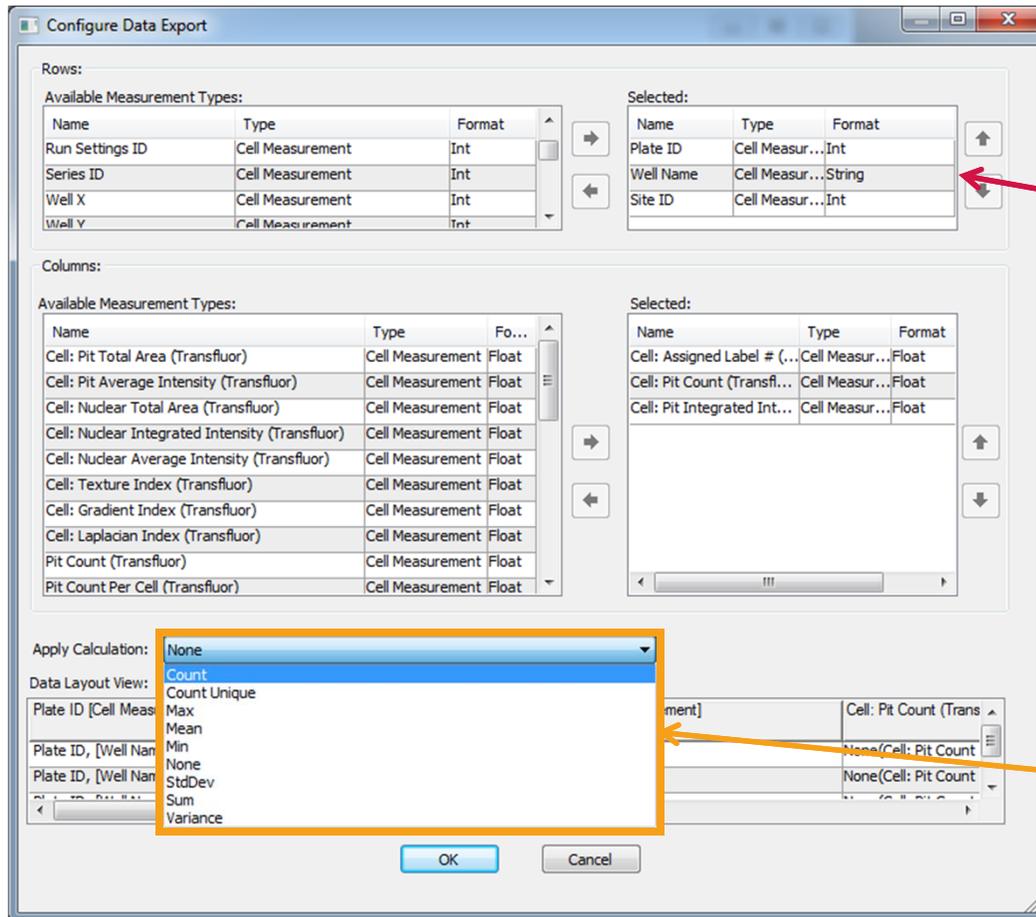
- Order matters!
- It is suggested to start from the top level of plate information (i.e. Plate ID) and then proceed down (i.e. Well ID, then Site ID, then Cell ID).
- Always use **Cell Measurement** or **Image Attribute** types
- DO NOT use **Annotation** types

- Move measurement(s) of interest to the right-hand pane to be included in the export
- Always add **Cell: Assigned Label #**
- ONLY include measurements that are preceded by **Cell:.** All other measurements are Image (summary) Measurements and should be exported as Image Measurements (refer to corresponding chapter).

\*NOTE\* You can click on the Name column header to sort the choices alphabetically



# Setting Up Export of Cell Measurements



- If you have acquired multiple sites and would like to export the data for each site, include **Site ID** as part of the Row organization
- However, if you would like to combine the site data into a single value for the well (see below), remove **Site ID** from the list.

- Choose the appropriate calculation from the **Apply Calculation** drop-down menu. Select **None** if your row setup includes **Cell ID**
- If you do not include Cell ID in the row setup, select the appropriate calculation from the drop-down menu. This will be applied to all the measurements selected.
- Only one calculation can be applied at a time. To apply multiple calculations, you will need to run multiple export operations.

7. Click **OK** when you have finished configuring data export



# Configuring Data Export – Example

Selected:

Name	Type	Format
Well Name	Cell Measur...	String
Site ID	Cell Measur...	Int
Cell ID	Cell Measur...	String

+

Apply Calculation:

- Generates table where data from each cell is in a separate row

Plate ID	Well Nam	Site ID	Cell ID	MEASURE	Cell: Assigned Label	Cell: C
50	A01	1	50_1166_1593_0	13		
50	A01	2	50_1167_1594_0	13		
50	A01	2	50_1167_1594_1	13		1
50	A01	2	50_1167_1594_10	13		10
50	A01	2	50_1167_1594_100	13		100
50	A01	2	50_1167_1594_101	13		101
50	A01	2	50_1167_1594_102	13		102
50	A01	2	50_1167_1594_103	13		103
50	A01	2	50_1167_1594_104	13		104
50	A01	2	50_1167_1594_105	13		105

Selected:

Name	Type	Format
Plate ID	Cell Measur...	Int
Well Name	Cell Measur...	String

+

Apply Calculation:

- Generates table where measurements for each individual cell are combined into one value for the whole well

Plate ID	Well Nam	MEASURE	Nuclei (Gr	Granules (	Granules Per Cell
50	A01	13	221.6	80.2	0.2293696
50	B02	13	461.4	317.6	0.8897796
50	C01	13	352.8	119.8	0.3792968
50	D02	13	396	639	1.7135644

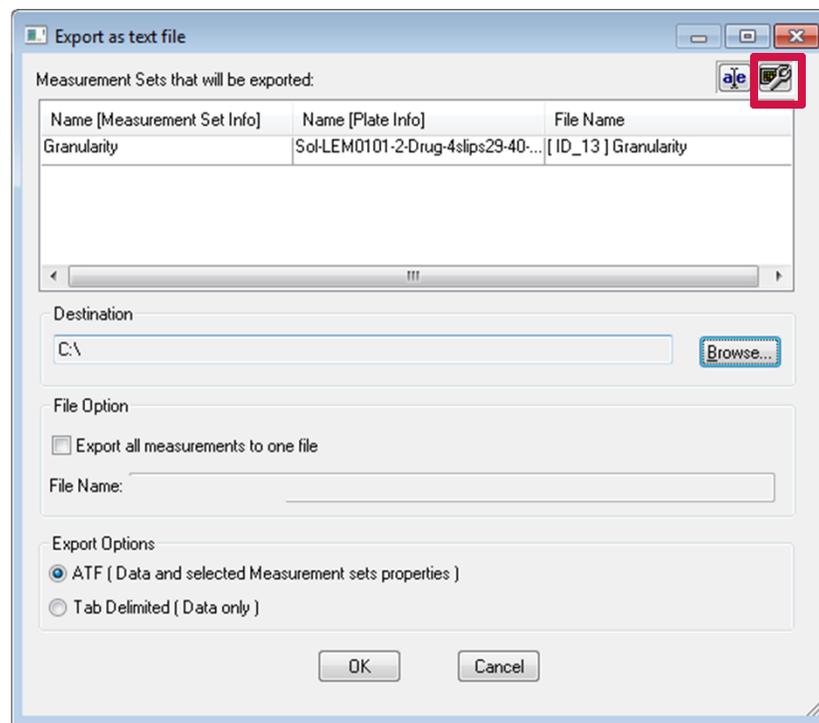
\*NOTE\* You can click on the Name column header to sort the choices alphabetically



# Setting Up Export of Cell Measurements

## 8. Export Options

- a) Click on the **Configure Columns**  icon to select additional plate information that is exported for each plate in the header. Recommend including **Name [Plate Info]**.
- b) Click on the **Browse** button to navigate to a directory to save the .txt file.
- c) Enable **Export all measurements to one file** and name the file if you would like to export all plates to one .txt file. Otherwise, a separate .txt file will be created for each plate and named according to the selections in Step 8.
- d) Under **Export Options** select **ATF**. This will create a tab delimited file with identifying info for each plate
- e) Click **OK**



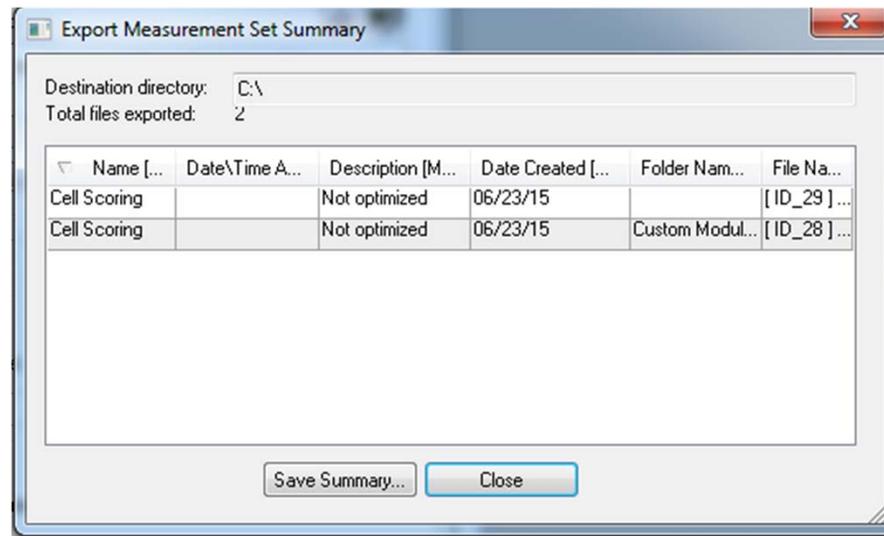
# Setting Up Export of Cell Measurements

13. You will be given the option to save a summary of the export. This file contains information related the .txt file(s) saved in the previous step.

- Click **Save Summary** to save the report
- Click **Close** to complete the process and exit out of the wizard

\*NOTE: This file is only a summary report and cannot be used to repeat the exporting process

14. You can now open the .txt file in Microsoft Excel



# 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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