

MetaXpress® 6 Software Guide

Batch Exporting Cell Measurements

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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.





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







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







- In the Export Measurements Wizard Step 1 dialog 5.
 - 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.

	Export Measurements Wizard - Step 1	
 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 	Measurement Set Selection Query Image: Simple Query Image: Simple Query Image: Measurement Set Image: Simple Query Image: Object of Color (Color (Co	Measurement Sets (OR) OR Image: Construction of the system of





- 4. 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
- 5. If you do not wish to filter your data, skip Step 4 and click the **Finish** button

In the above example, only data fro have a nuclear area > 50 µm ² will b
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- 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

Available Measuremen	t Types:					Selected:			
Name	Type		Format			Name	Type	Format	
	Cell Measurement	S	tring			Plate ID	Cell Measur	Int	+
Instance	Cell Measurement	Ir	nt			Well Name	Cell Measur	String	
Run Settings ID	Cell Measurement	Ir	nt	-	+	Site ID	Cell Measur.	Int	- +
Series ID	Cell Measurement	Te		-					
Available Measurement	Types:			_		Selected:			
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Settir	ng Up	o Exp	or	t of Cell I	Mea	as	urements
Configure Data Exp Rows: Available Measuremen	ort nt Types:			Selected:		•	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
Name Cell ID	Type Cell Measurement	Format		Name Type Format	- +		
Instance Run Settings ID	Cell Measurement	Int		Well Name Cell MeasurString		•	Move measurement(s) of interest
Series ID	Cell Measurement	Int	·				to the right-hand name to be
Columns: Available Measurement	Types:			Selected:			included in the export
Name		Type Fo		Name Type Format			Always add Coll: Assigned Labol
Cell: Pit Count (Transf	fluor)	Cell Measurement Float		Cell: Assigne Cell Measur Float			Always aud Gell. Assigned Laber
Cell: Pit Integrated In	tensity (Transfluor)	Cell Measurement Float		Cell: Pit Total Cell Measur Float			#
Cell: Nuclear Total Are	ea (Transfluor)	Cell Measurement Float		Cell: Pit Aver Cell Measur Float			π
Cell: Nuclear Integrate	ed Intensity (Transfluor)	Cell Measurement Float	-			•	ONLY include measurements that
Cell: Nuclear Average	Intensity (Transfluor)	Cell Measurement Float					
Cell: Cradient Index (1	Transfluor)	Cell Measurement Float	+		+		are preceded by Cell: . All other
Cells Gradient Index ((Transiluor)	Coll Mood rement Float					
							(summary) Measurements and

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



should be exported as Image

Measurements (refer to

corresponding chapter).



Rows: Available Measurement Types: Name Type Run Settings ID Cell Measurement Series ID Cell Measurement Well X Cell Measurement Well Y Cell Measurement Columns: Available Measurement Types: Name Type Cell: Pit Total Area (Transfluor) Cell Measurement Float Cell: Pit Average Intensity (Transfluor) Cell Measurement Float	Selected: Name Type Format Plate ID Cell MeasurInt Well Name Cell MeasurString Site ID Cell MeasurInt Selected: Name Type Format Cell: Assigned Label # (Cell MeasurFloat Cell: Pit Count (Transfl Cell MeasurFloat	 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.
Cell: Nudear Total Area (Transfluor) Cell Measurement Float Cell: Nudear Integrated Intensity (Transfluor) Cell Measurement Float Cell: Nudear Average Intensity (Transfluor) Cell Measurement Float	Cell: Pit Integrated Int Cell MeasurFloat	
Cell: Texture Index (Transfluor) Cell Measurement Float Cell: Gradient Index (Transfluor) Cell Measurement Float Cell: Laplacian Index (Transfluor) Cell Measurement Float Pit Count (Transfluor) Cell Measurement Float Pit Count (Transfluor) Cell Measurement Float Pit Count Per Cell (Transfluor) Cell Measurement Float Data Layout View: Count Data Layout View: Count Plate ID [Cell Meas Max Mean Min Plate ID, [Well Nan None StdDev Sum Variance OK	el	 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

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



calculations, you will need to run

multiple export operations.

Configuring Data Export – Example

Name	Туре	Format		^	
Well Name	Cell Measur	String			T
Site ID	Cell Measur	Int		- 14	
Cell ID	Cell Measur	Strina		Ψ.	+
•			- Þ.		

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

Plate ID	Well Nam Si	ite ID	Cell ID	MEASURE	Cell: Assigned Label	Cell: 0
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_10	0 13	100	
50	A01	2	50_1167_1594_10	1 13	101	
50	A01	2	50_1167_1594_10	2 13	102	
50	A01	2	50_1167_1594_10	3 13	103	
50	A01	2	50_1167_1594_10	4 13	104	
50	A01	2	50_1167_1594_10	5 13	105	

- Selected:

 Name
 Type
 Format

 Plate ID
 Cell Measur...Int

 Well Name
 Cell Measur...String

 Image: Comparison of the second second
- 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
2	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

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



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- 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**

	News (Dista la C.)	Cie Neuro	ez
Name (Measurement Set Info)	Name (Plate Info)	File Name	
aranulality	SOFEEMOTOT-2-Drug-4silps.	23-40[1D_13] Granulany	
•			+
Destination			
C/1		(n	
6.1		Elowse	9]
File Option			
Export all measurements to o	ne file		
File Name:			
			_
Export Options			
Export Options ATF (Data and selected Mea	asurement sets properties)		
Export Options ATF (Data and selected Mean Tab Delimited (Data only)	asurement sets properties)		





- 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

estination direc otal files export	tory: C:\ ed: 2				
Name [Date\Time	e A Description [M.	Date Created [Folder Nam	File Na
ell Scoring		Not optimized	06/23/15		[ID_29]
ell Scoring		Not optimized	06/23/15	Custom Modul	[ID_28]





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Support Resources

- F1 / HELP within MetaXpress® Software
- Support and Knowledge Base: <u>http://mdc.custhelp.com/</u>
- User Forum: http://metamorph.moleculardevices.com/forum/
- Request Support: <u>http://mdc.custhelp.com/app/ask</u>
- 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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