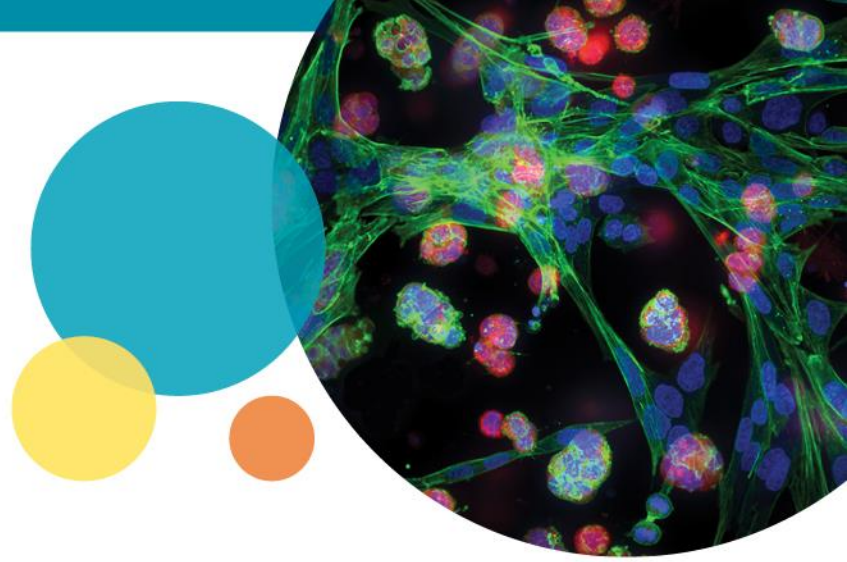


CellReporterXpress® Software Guide for reviewing data with the Data Visualization Tools

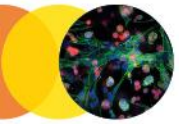
MOLECULAR DEVICES
ADVANCING DISCOVERY

Support Resources

- Help button within CellReporterXpress® Software
- Support and Knowledge Base: http://mdc.custhelp.com
- Email Technical Support:

  support@moldev.com (US)
  techsupport.eu@moldev.com (EU)

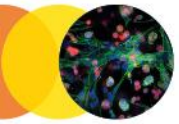
- Telephone Technical Support: 800-635-5577 (US) or +44 118 944 8000 (EU), select options for Technical Support → Cellular Imaging Products →ImageXpress Products



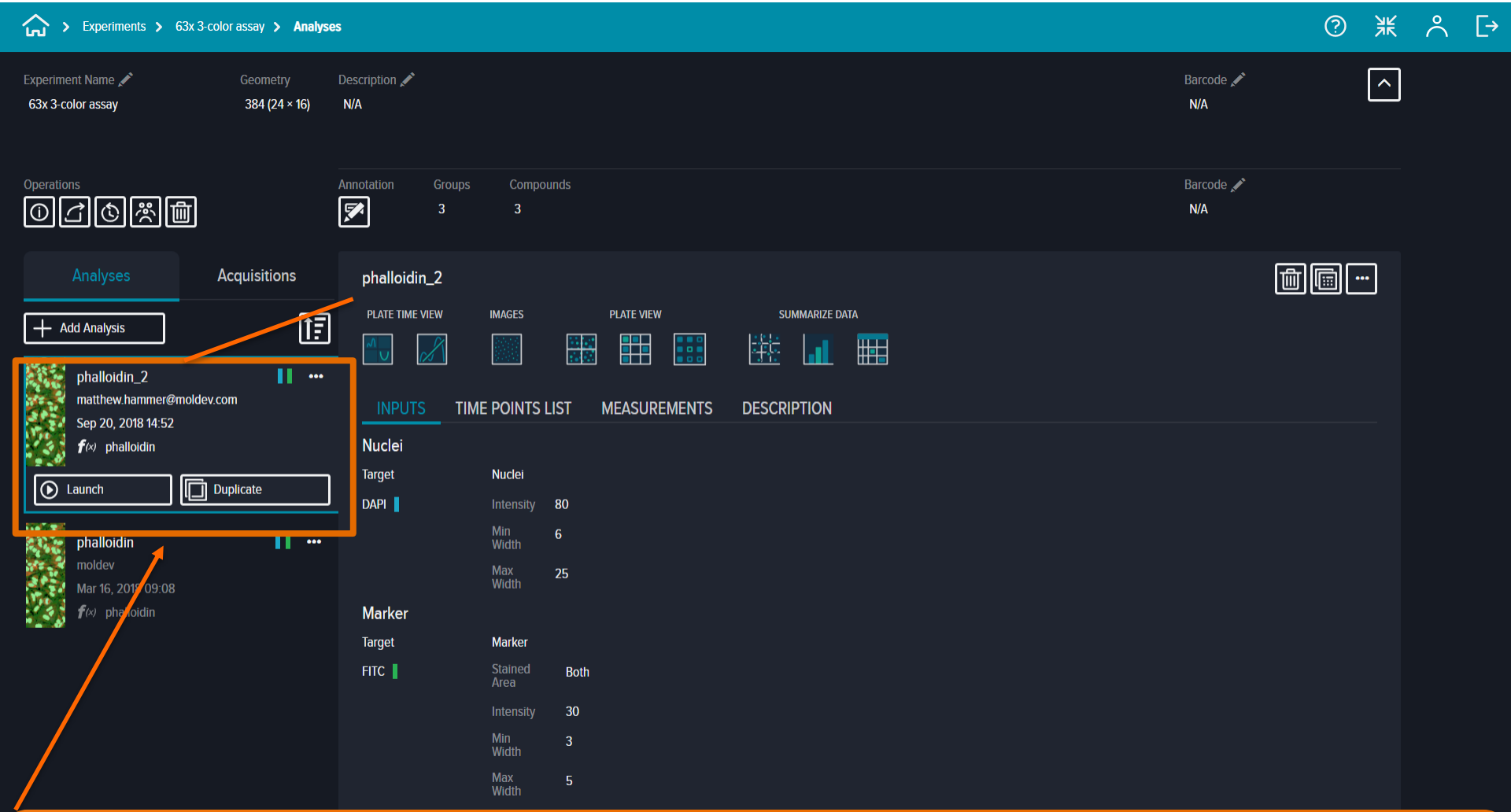
Purpose

This document provides a step-by-step review of how to review data with the CellReporterXpress Data Visualization Tools:

- Plate Thumbnail View
- Data View
- Heatmap
- Images
- Scatter Plot
- Stacked Bar
- Data Table
- Cellular Level Data Visualization Tools

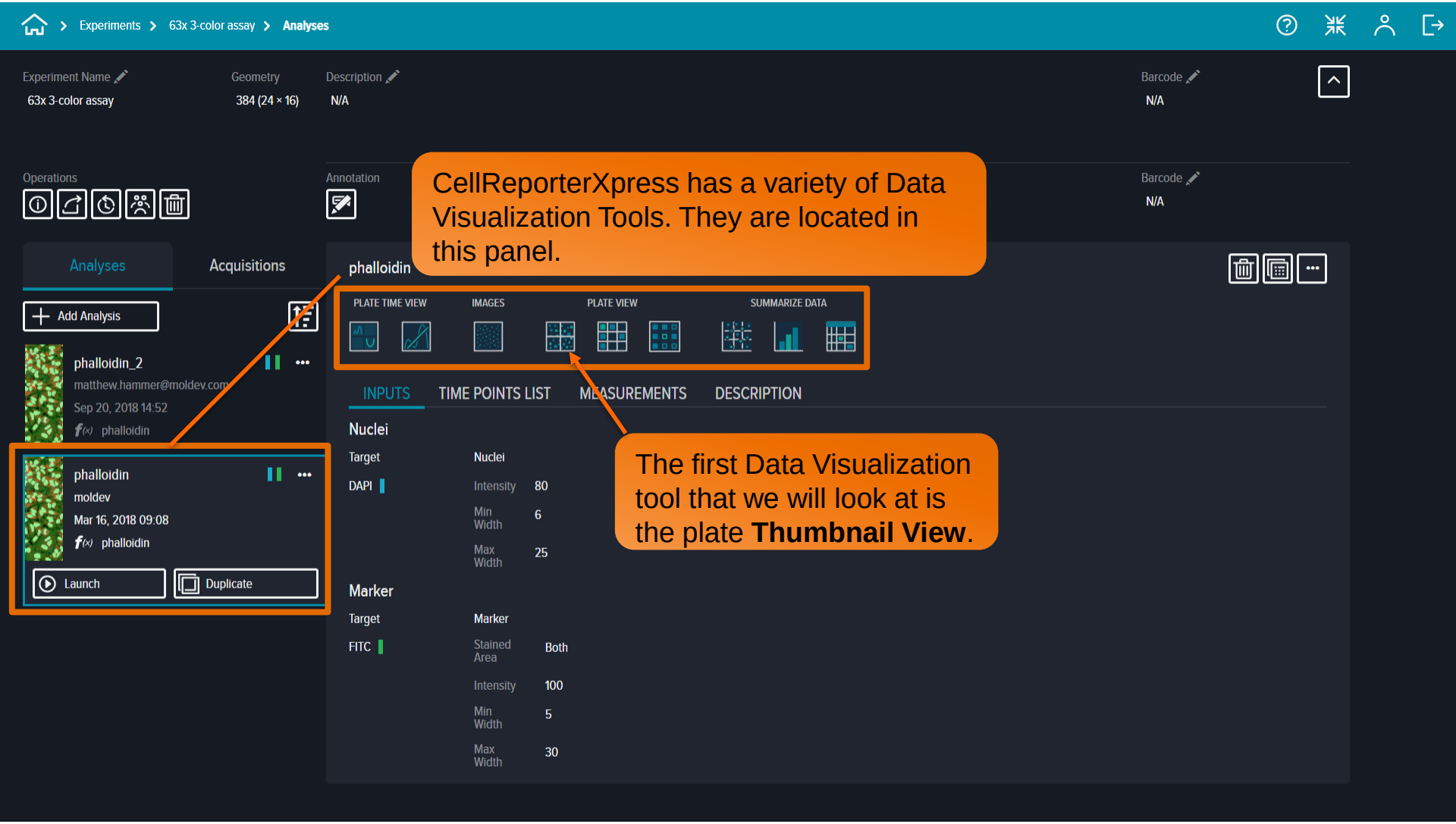


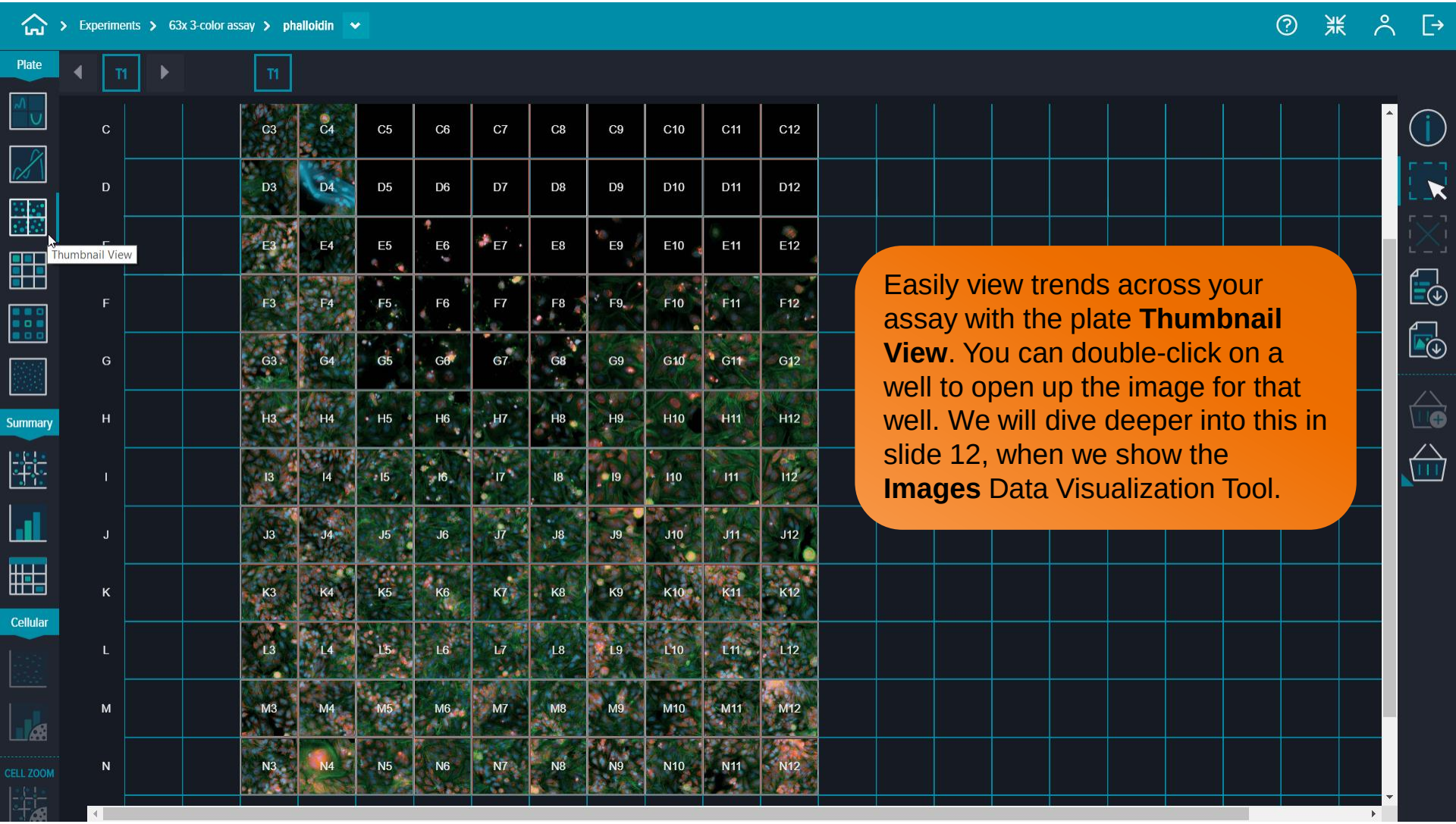
Experiment Landing Page



If multiple analyses have been run on a plate, select the analysis that you would like to display, and it will be highlighted (outlined in blue). The selected analysis will be displayed on this landing page as well as throughout the data visualization tools that will be shown in this presentation. The most recently run analysis will appear on the top of this list of analyses.

Experiment Landing Page

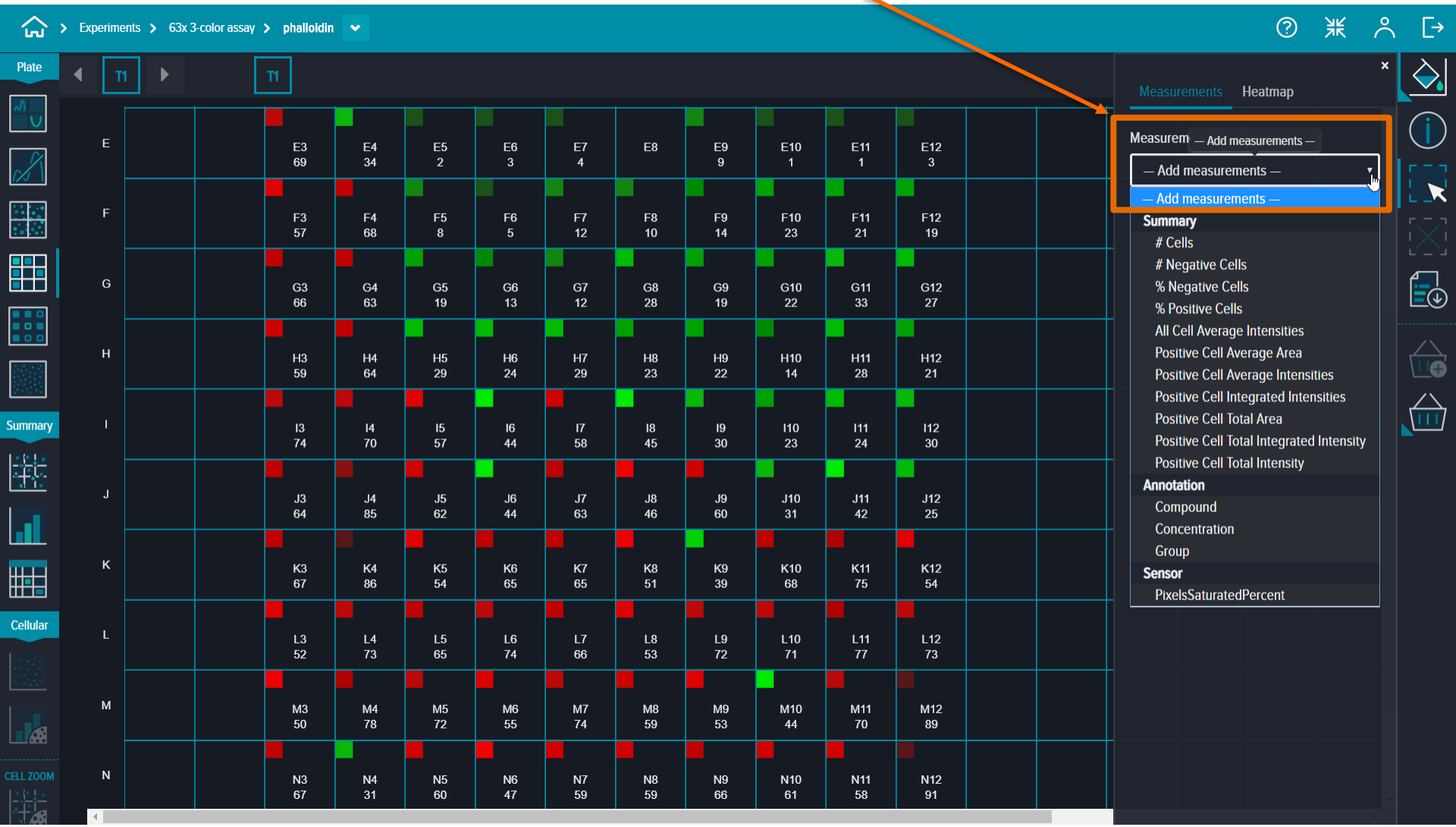




Easily view trends across your assay with the plate **Thumbnail View**. You can double-click on a well to open up the image for that well. We will dive deeper into this in slide 12, when we show the **Images** Data Visualization Tool.

Data View displays data analysis measurements along with a heat map on the wells that were analyzed.

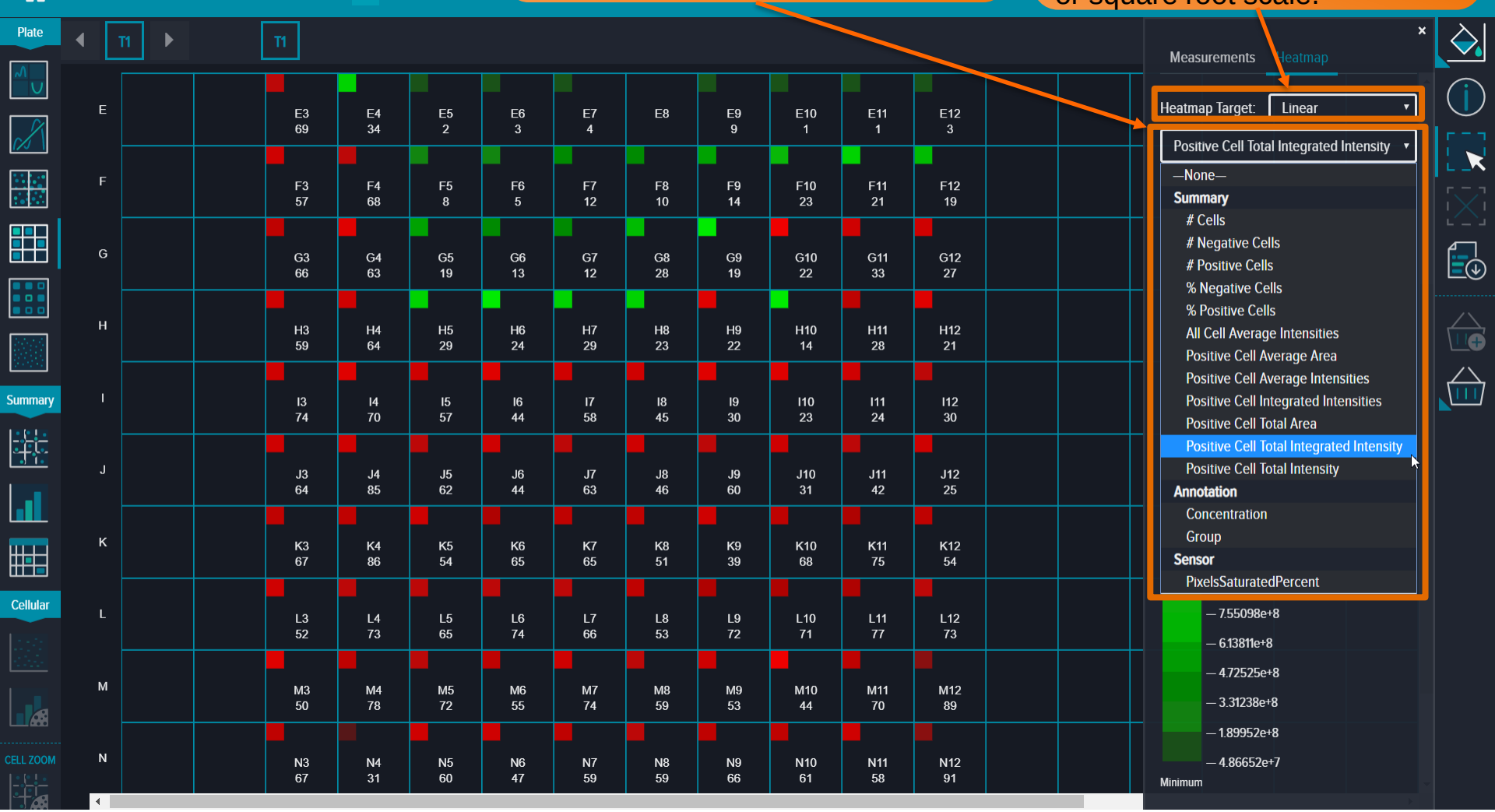
Add up to 4 measurements on the **Data View** display



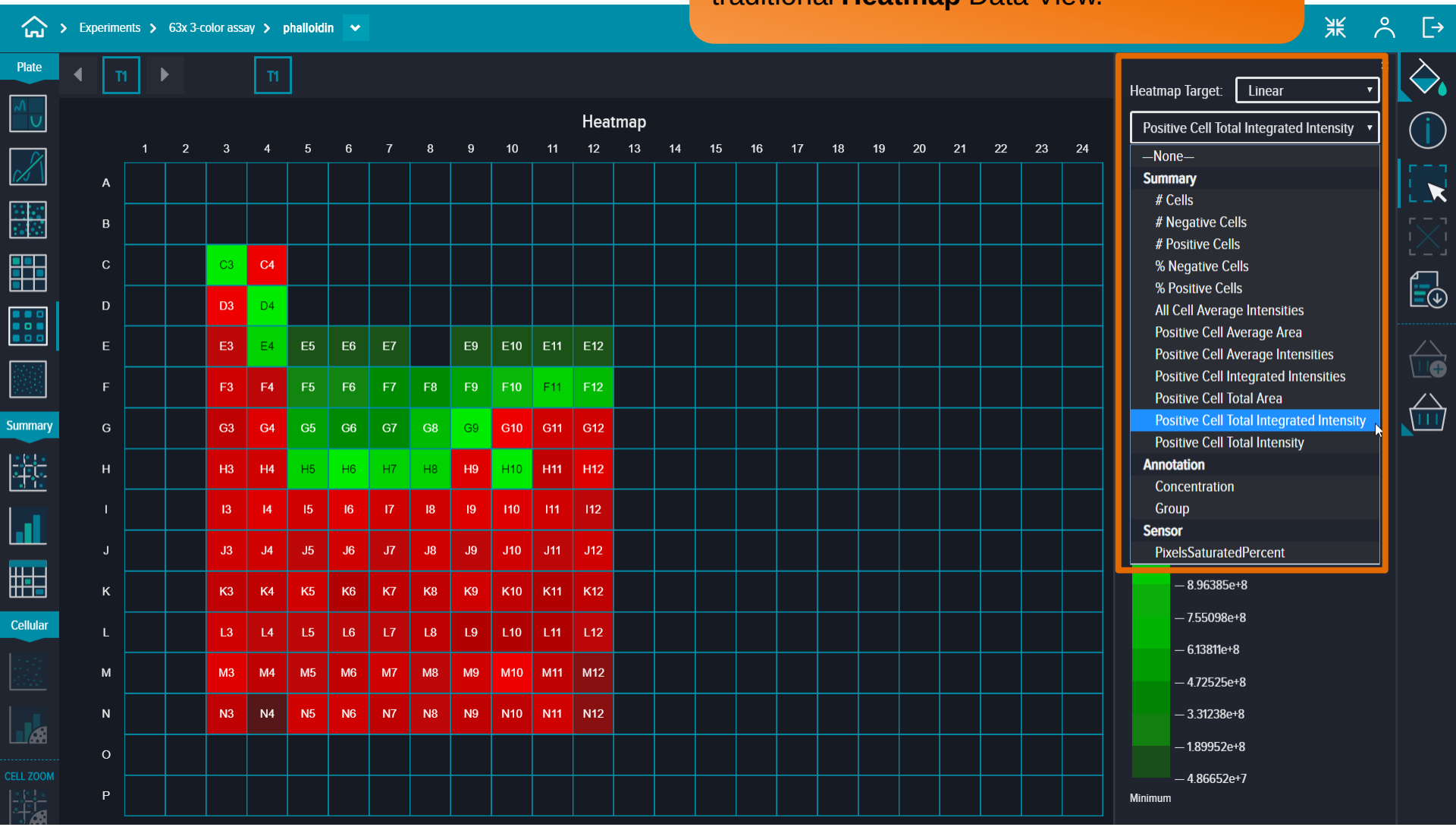
The **Data View** also contains a heatmap

Heatmap any measurement generated from the analysis on the **Data View** display.

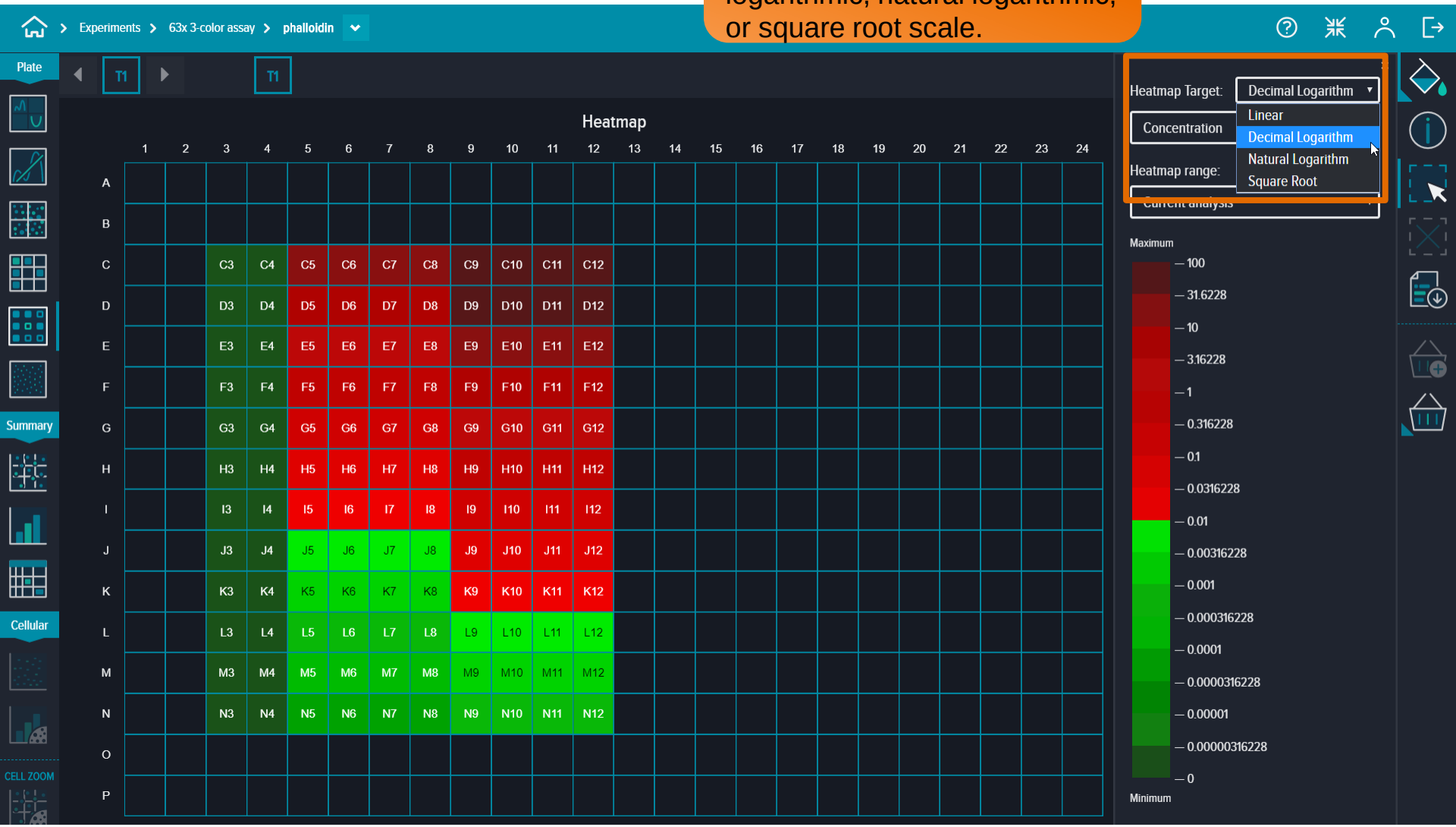
The heatmap target can be represented in a linear, decimal logarithmic, natural logarithmic, or square root scale.



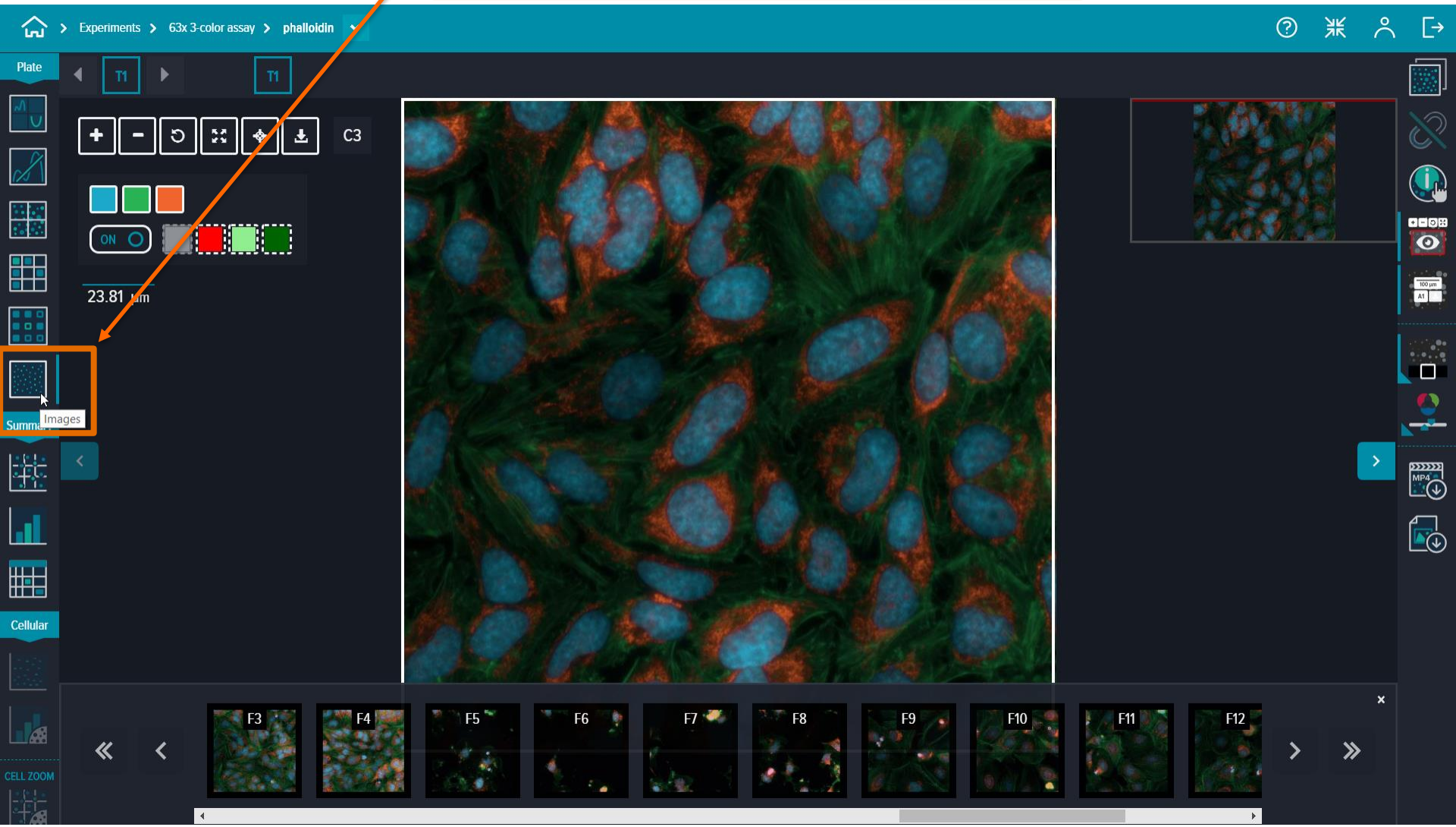
Visualize a heatmap for any measurement produced in the data analysis in the traditional **Heatmap** Data View.

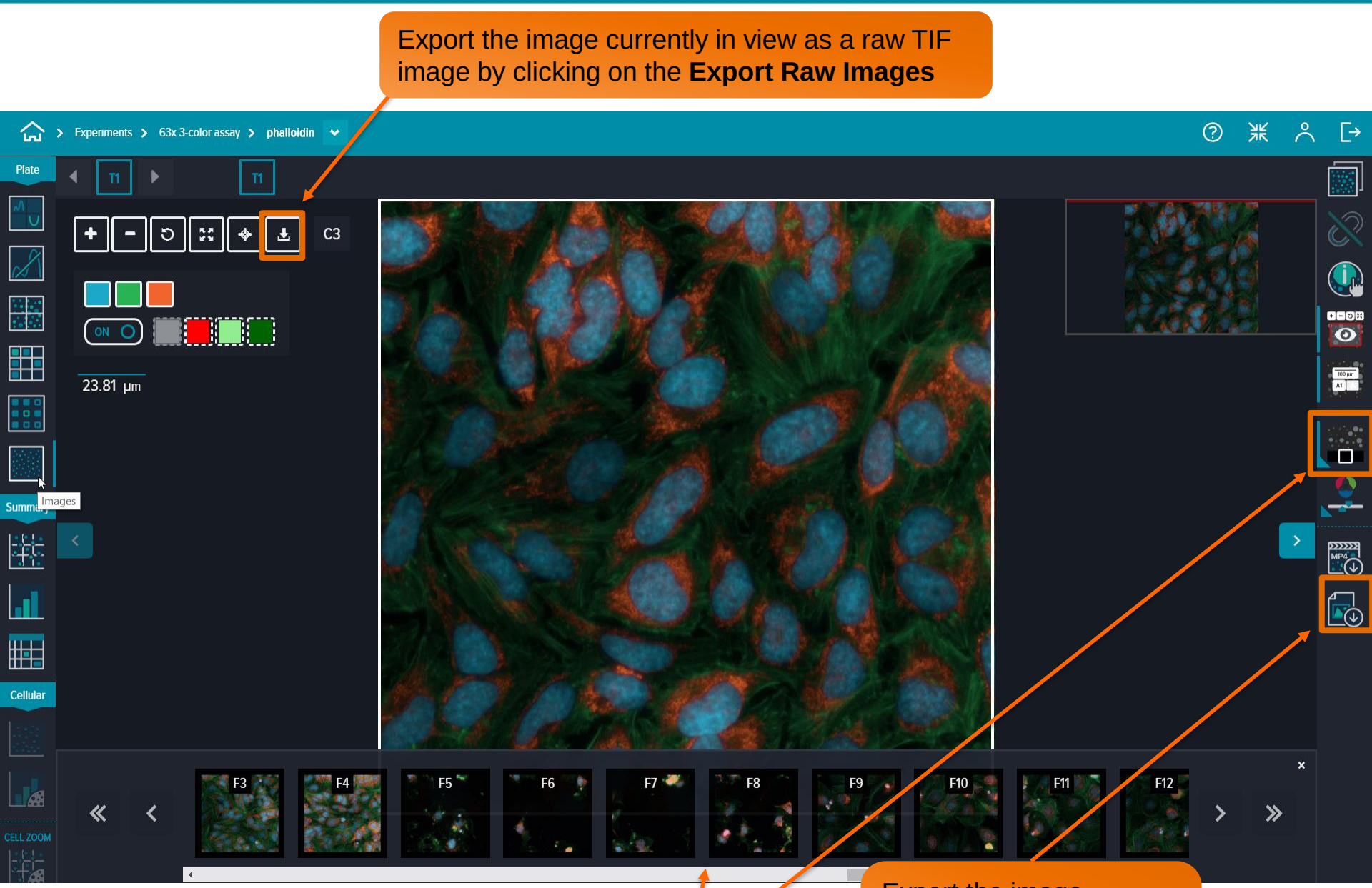


The heatmap target can be represented in a linear, decimal logarithmic, natural logarithmic, or square root scale.

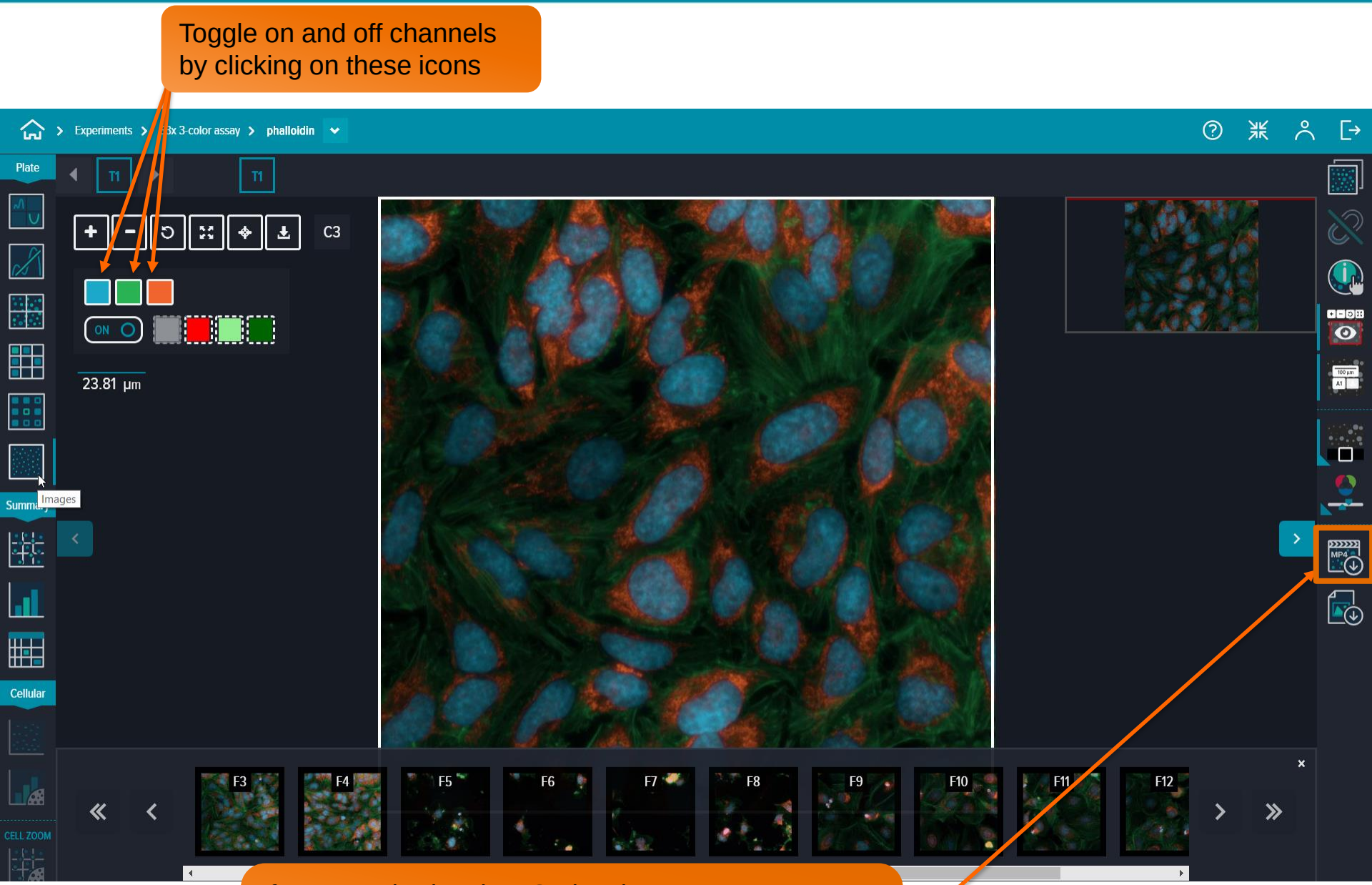


Review the high resolution images from the entire acquisition by clicking on the **Images** Data View.





MOLECULAR DEVICES


Toggle on and off channels by clicking on these icons
Experiments
3x 3-color assay
phalloidin
Plate
T1
C3
ON
23.81 µm
Images
Summary
Cellular
CELL ZOOM
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
If you acquired a Time Series then you can export MP4 videos for the selected well that is open in this window by clicking on the **Download MP4 Movie** icon.

Toggle on and off analysis segmentation masks by clicking on these buttons. To visualize the segmentation masks, zoom in on the image until the masks appear.

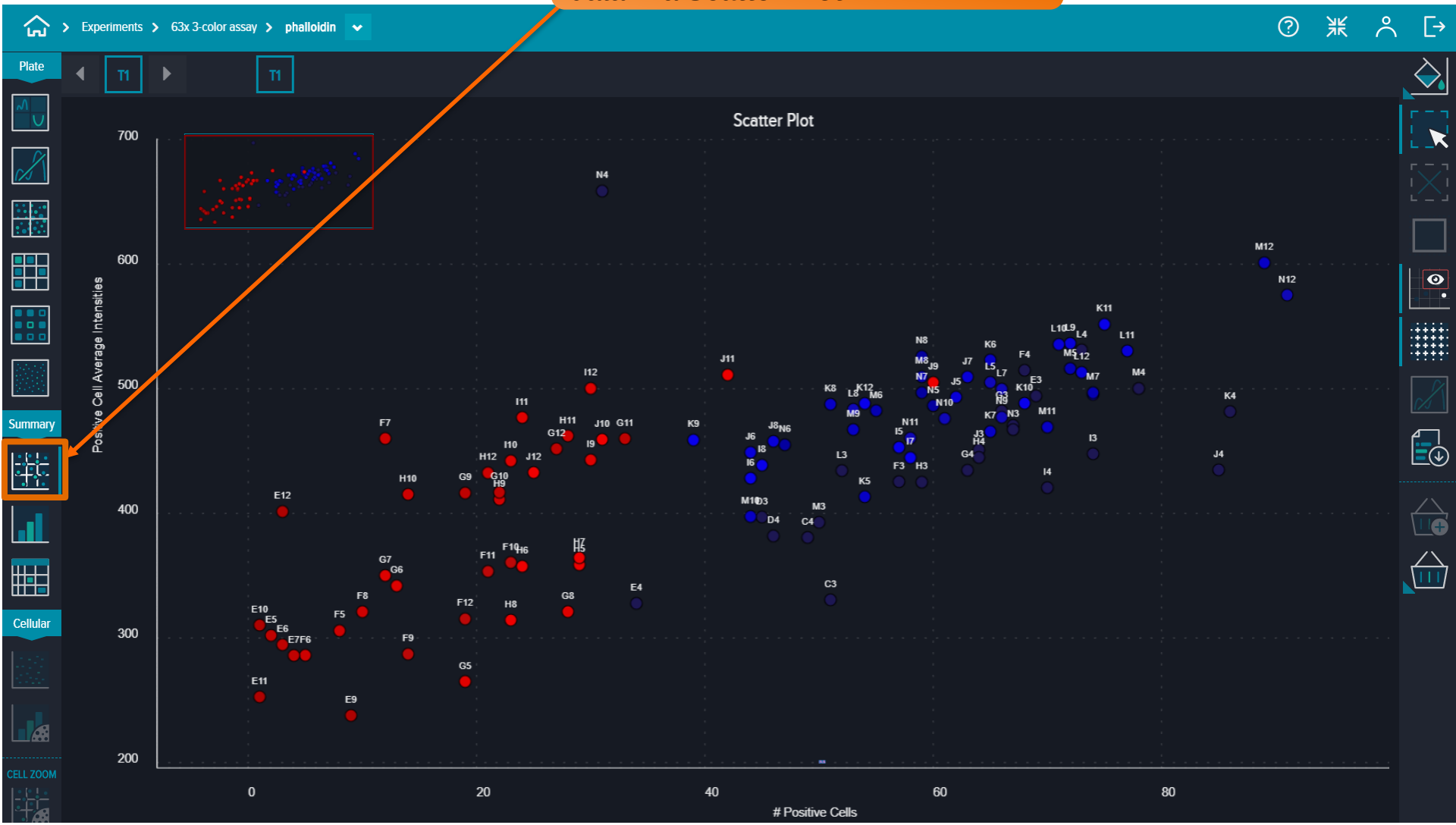
The red box in the **Navigation Map** indicates where you are looking in the image.

Compare images from two different wells with the **Comparison Mode** feature.

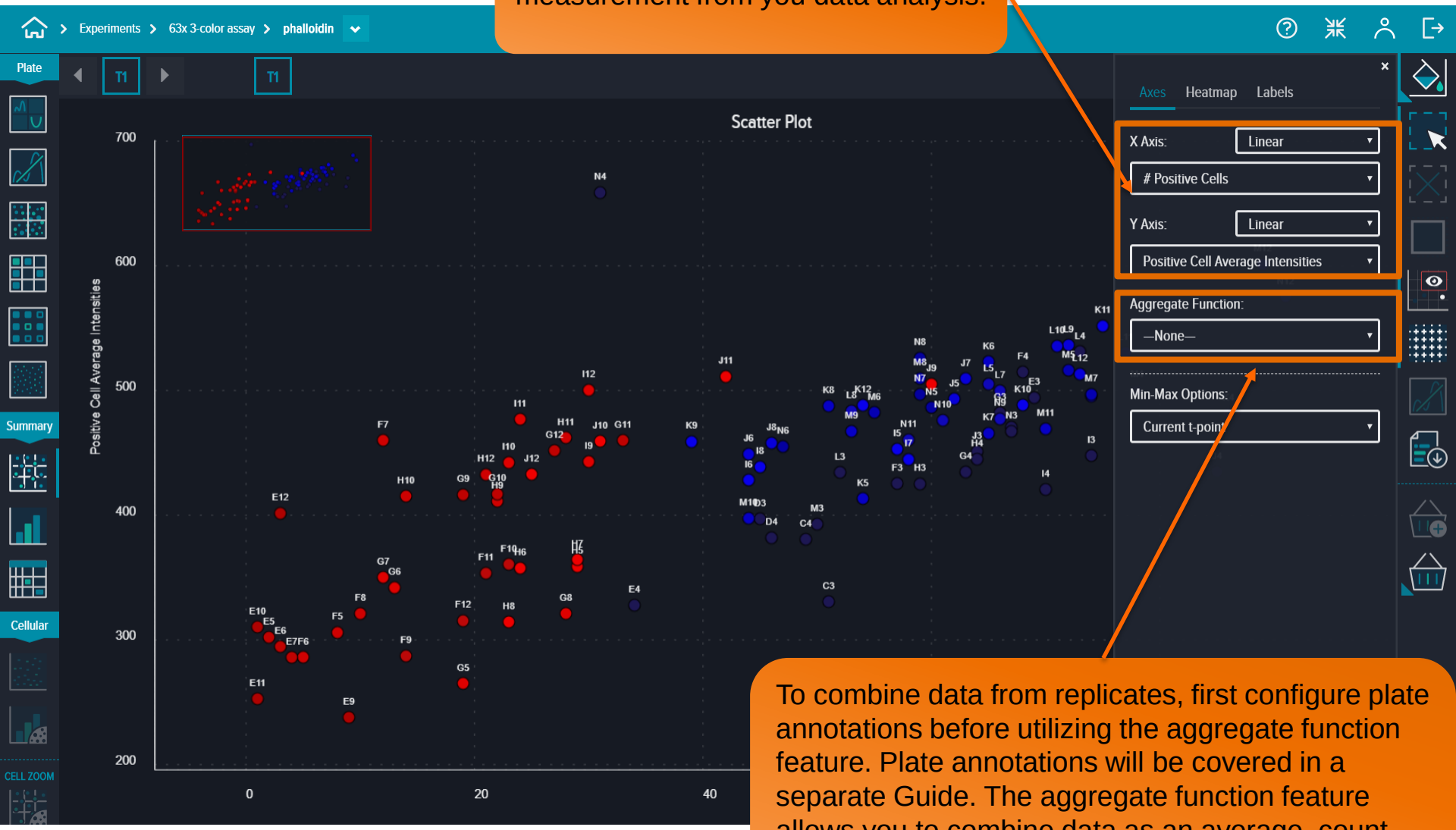
Link the two images that are being compared so that the zoom and viewing position remains equal between both wells.

Compare analysis masks between different wells in your assay.

View your summary (well-by-well) data in a **Scatter Plot**

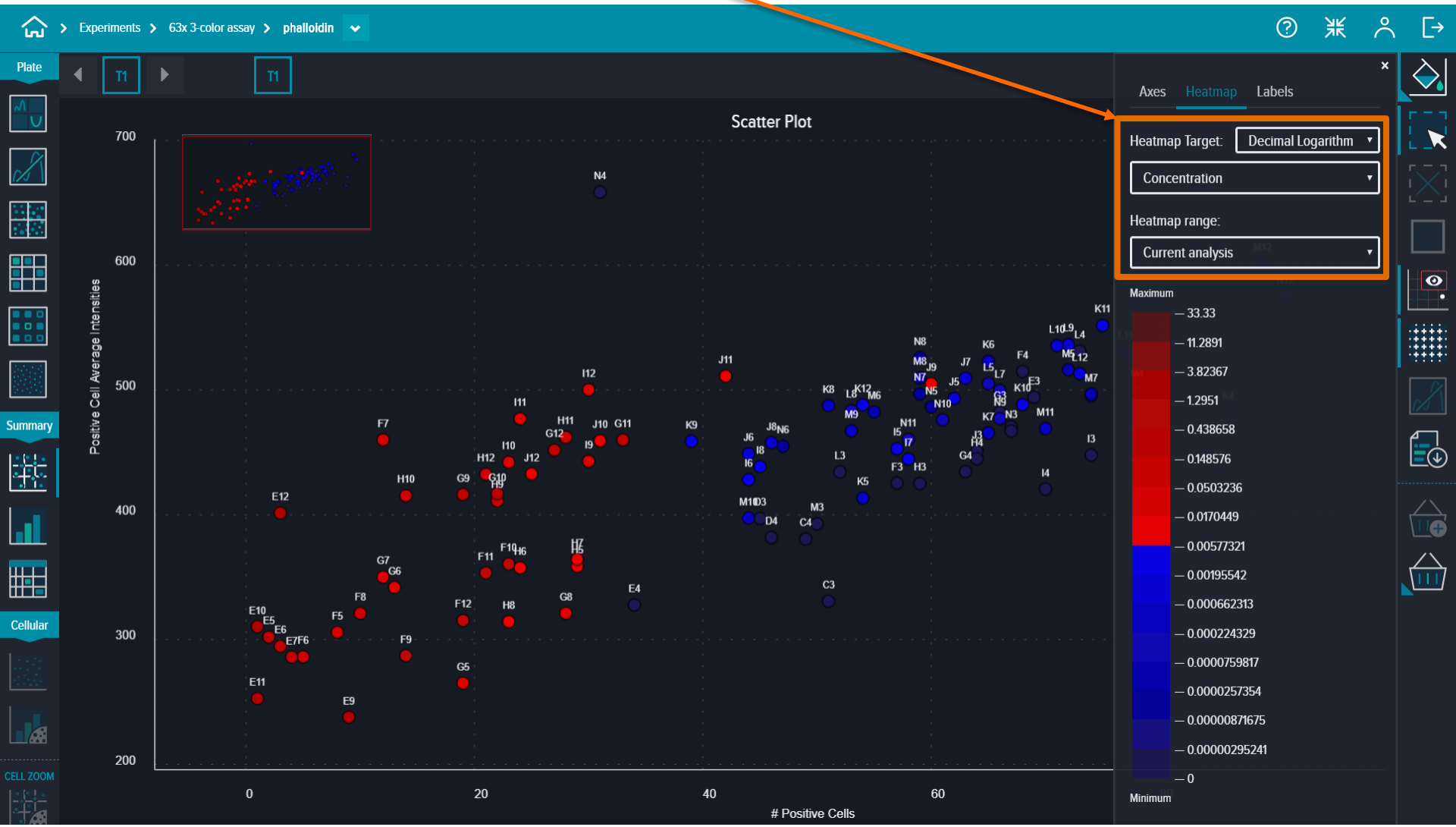


Configure the X and Y axes with any measurement from you data analysis.



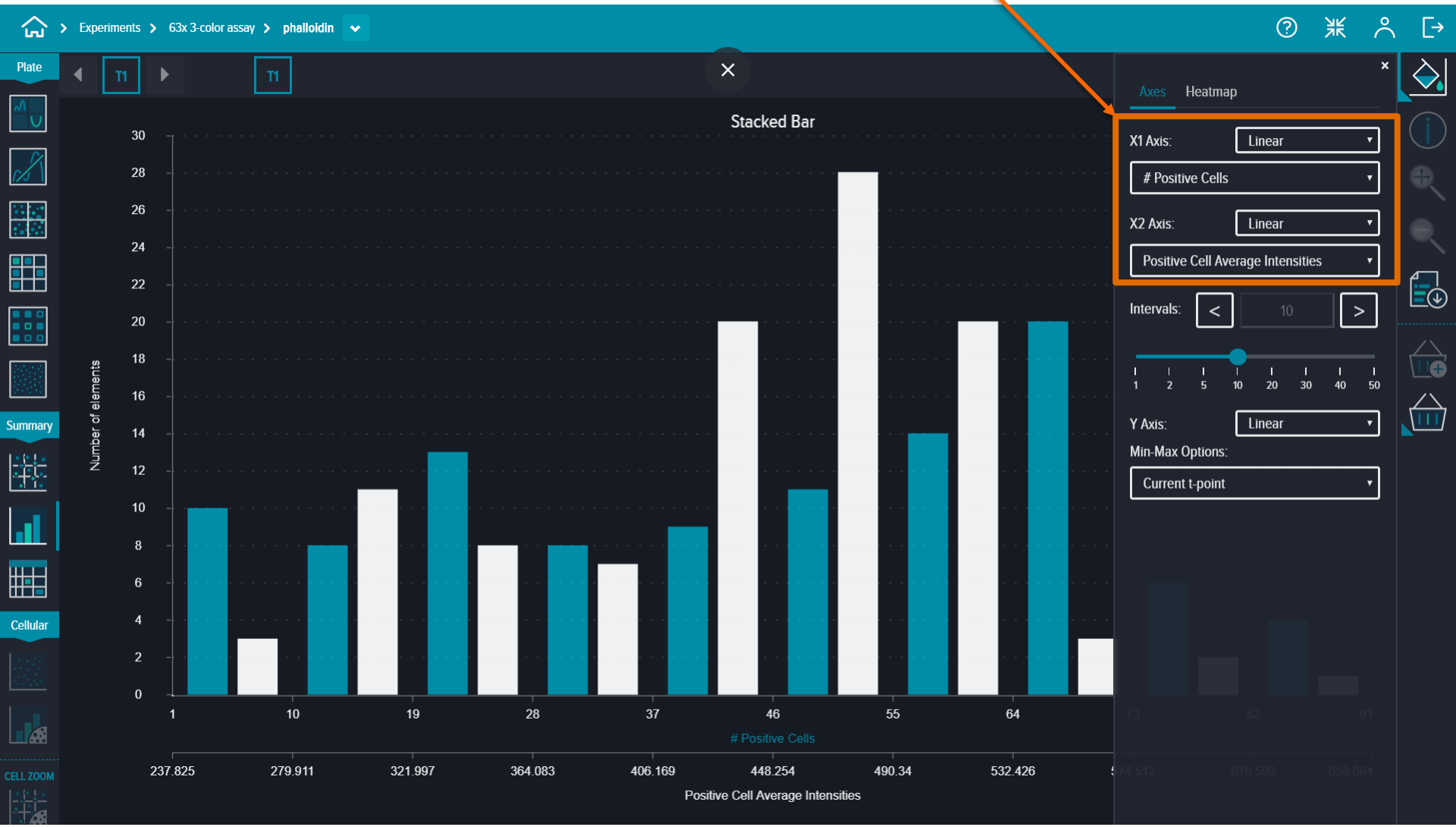
To combine data from replicates, first configure plate annotations before utilizing the aggregate function feature. Plate annotations will be covered in a separate Guide. The aggregate function feature allows you to combine data as an average, count, maximum, minimum, standard deviation, or sum.

Heatmap a third measurement or an annotation on your **Scatter Plot**. The Heatmap target can be represented in a linear, decimal logarithmic, natural logarithmic, or square root scale.



View your summary (well-by-well) data in a **Stacked Bar**, which can be used to gate populations of cells based on well-by-well data

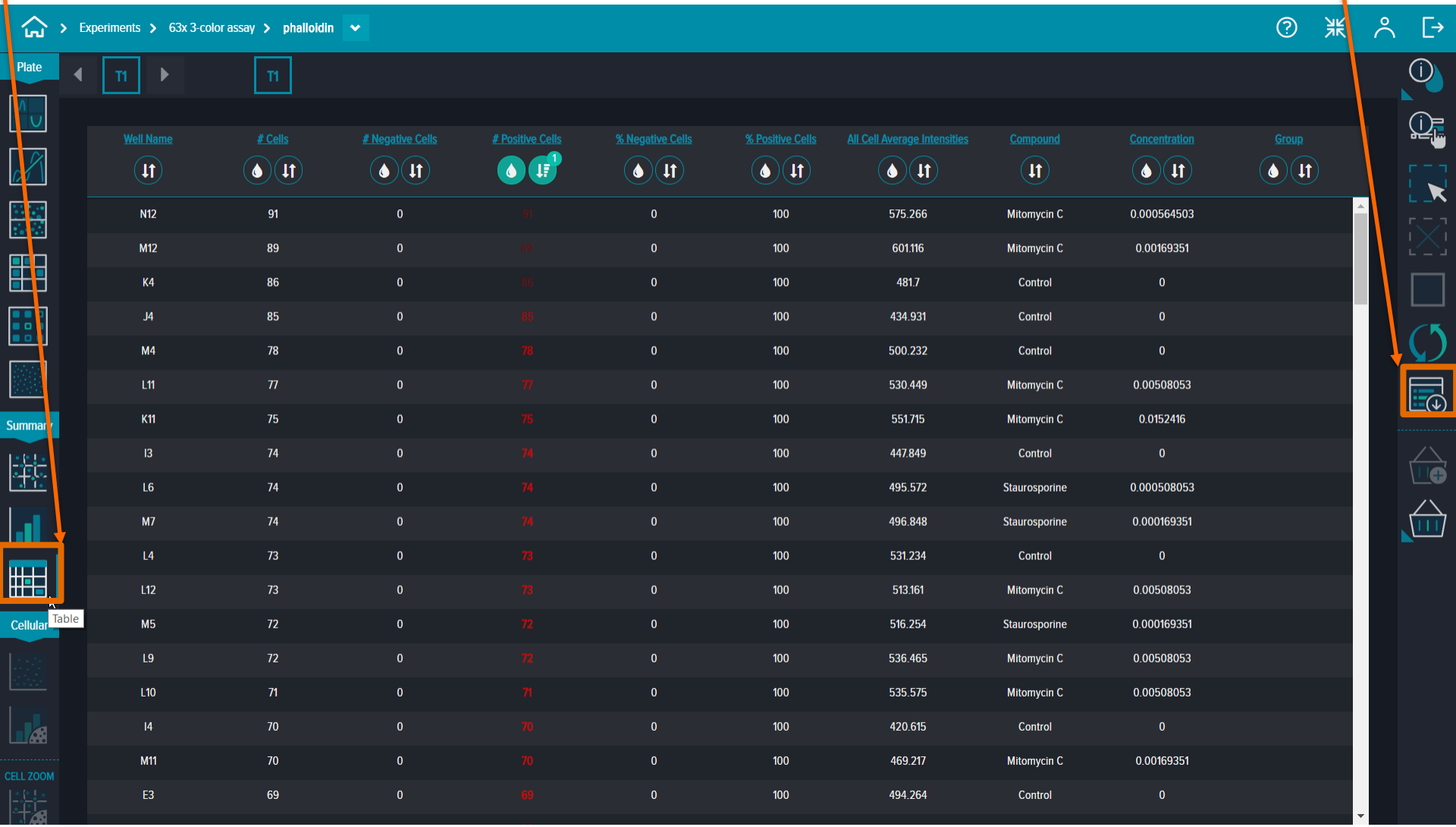
Map up to two measurements on the X axis of the **Stacked Bar** graph



Heatmap a measurement on the **Stacked Bar** graph

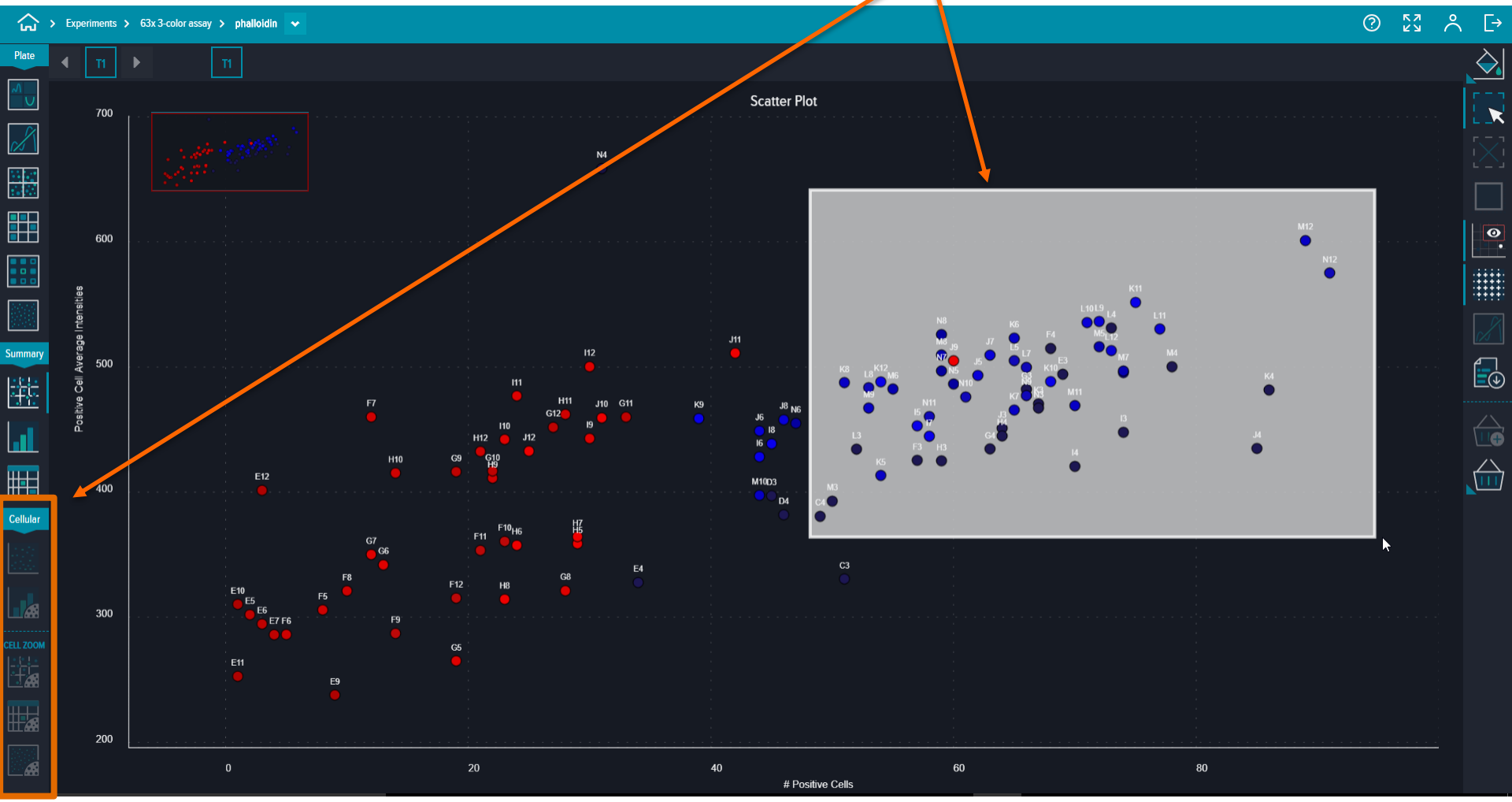
View all of your measurements along with a

Export this table into an Excel (.CSV) file by clicking on this **Export** button



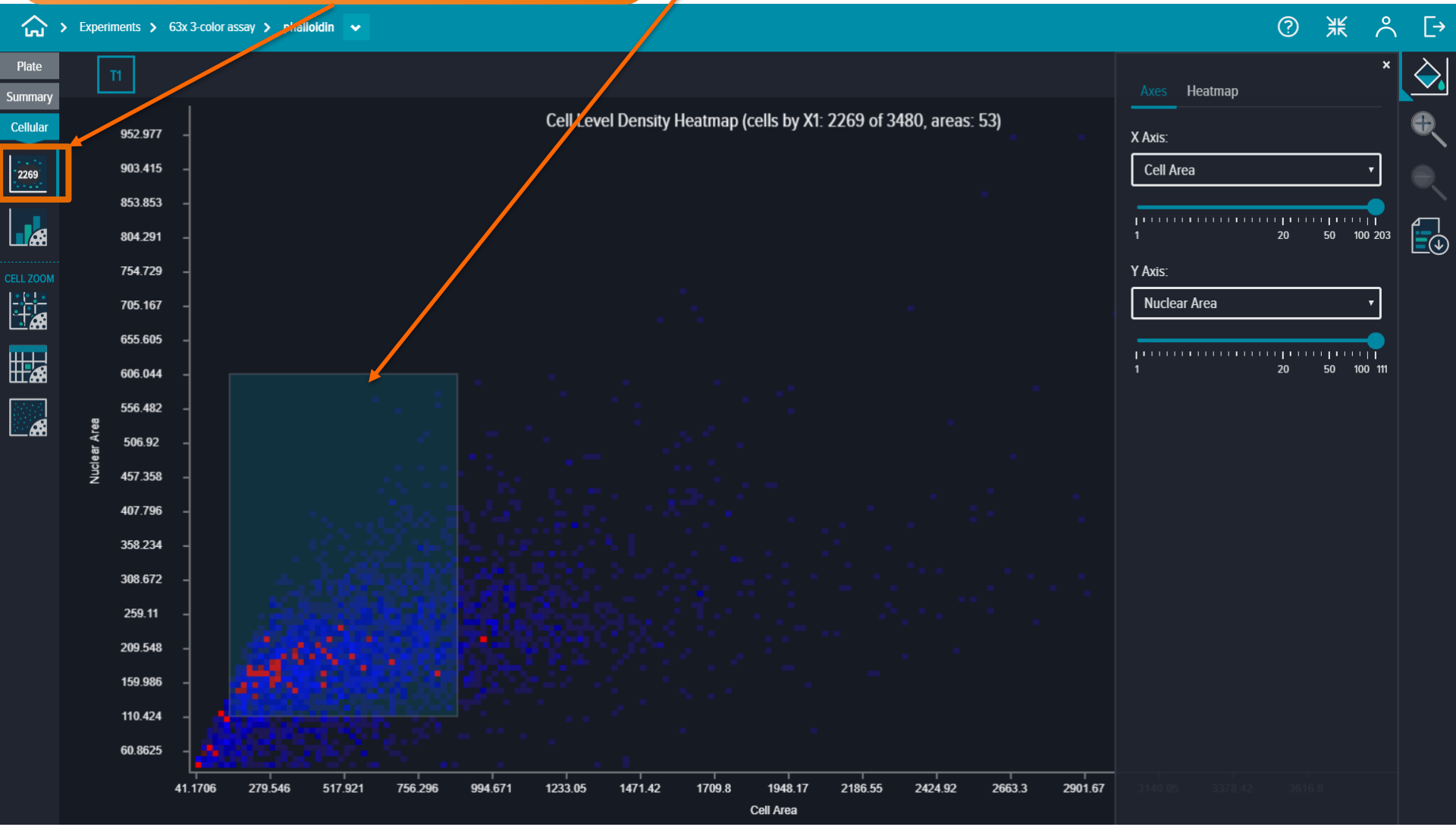
Well Name	# Cells	# Negative Cells	# Positive Cells	% Negative Cells	% Positive Cells	All Cell Average Intensities	Compound	Concentration	Group
N12	91	0	91	0	100	575.266	Mitomycin C	0.000564503	
M12	89	0	89	0	100	601.116	Mitomycin C	0.00169351	
K4	86	0	86	0	100	481.7	Control	0	
J4	85	0	85	0	100	434.931	Control	0	
M4	78	0	78	0	100	500.232	Control	0	
L11	77	0	77	0	100	530.449	Mitomycin C	0.00508053	
K11	75	0	75	0	100	551.715	Mitomycin C	0.0152416	
I3	74	0	74	0	100	447.849	Control	0	
L6	74	0	74	0	100	495.572	Staurosporine	0.000508053	
M7	74	0	74	0	100	496.848	Staurosporine	0.000169351	
L4	73	0	73	0	100	531.234	Control	0	
L12	73	0	73	0	100	513.161	Mitomycin C	0.00508053	
M5	72	0	72	0	100	516.254	Staurosporine	0.000169351	
L9	72	0	72	0	100	536.465	Mitomycin C	0.00508053	
L10	71	0	71	0	100	535.575	Mitomycin C	0.00508053	
I4	70	0	70	0	100	420.615	Control	0	
M11	70	0	70	0	100	469.217	Mitomycin C	0.00169351	
E3	69	0	69	0	100	494.264	Control	0	

Highlight data points (wells) to gate populations of cells based on well-by-well data. This will open up access to the Cellular Data Visualization Tools.

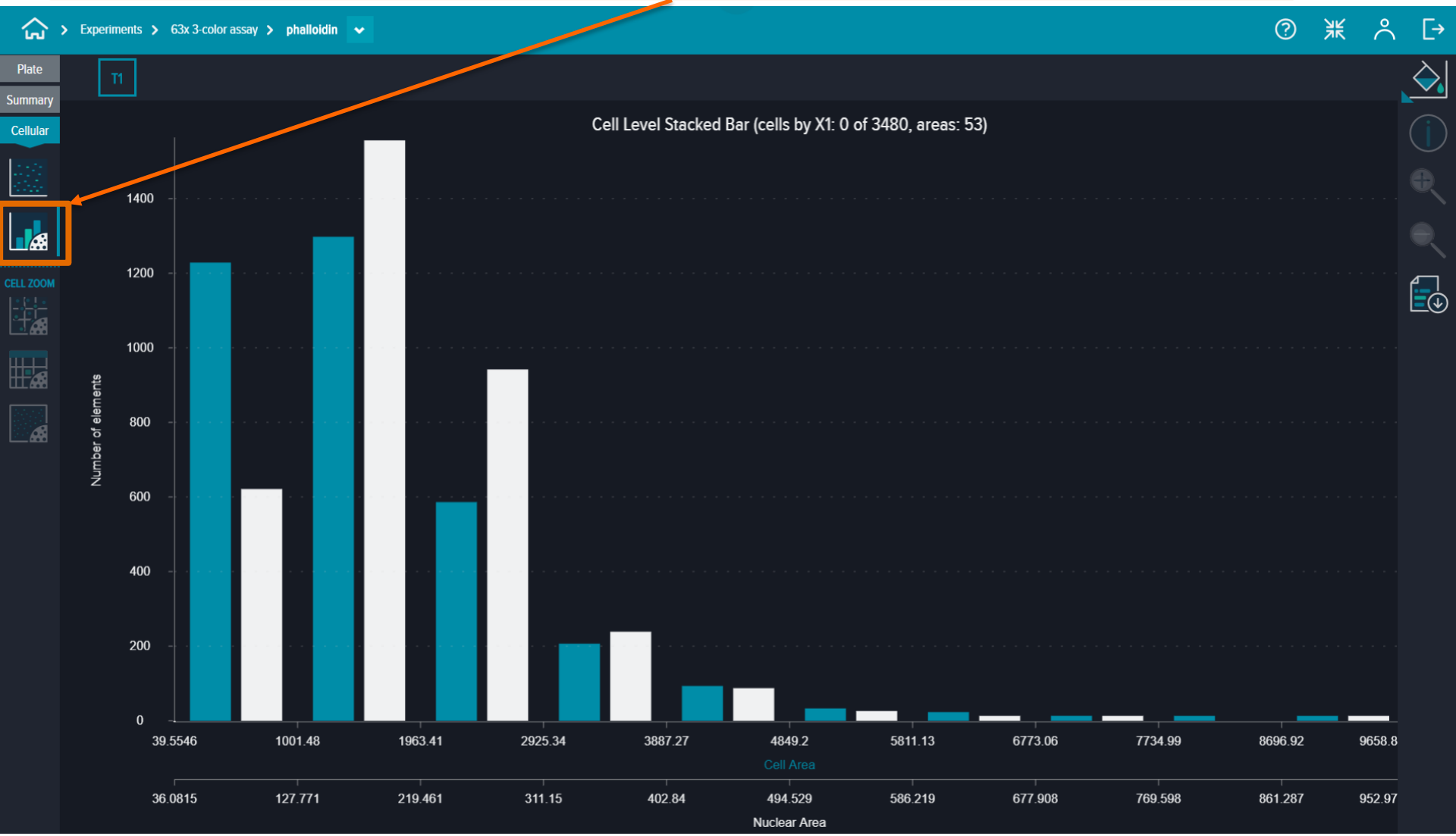


Open up the **Cell Level Density Heatmap** to visualize a Scatter Plot of cell-by-cell data. Each data point is an individual cell.

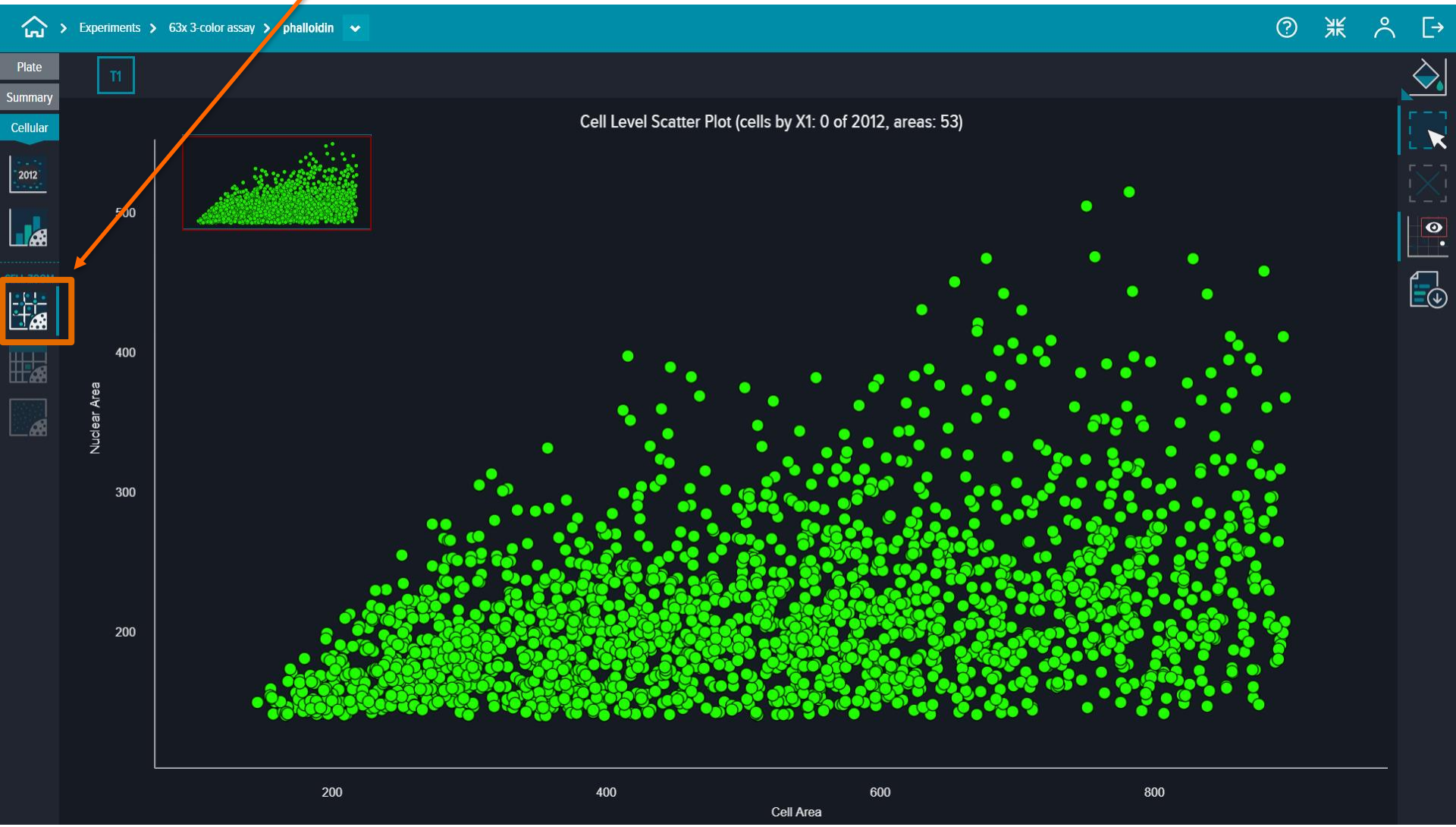
Gate further by highlighting a group of cells.



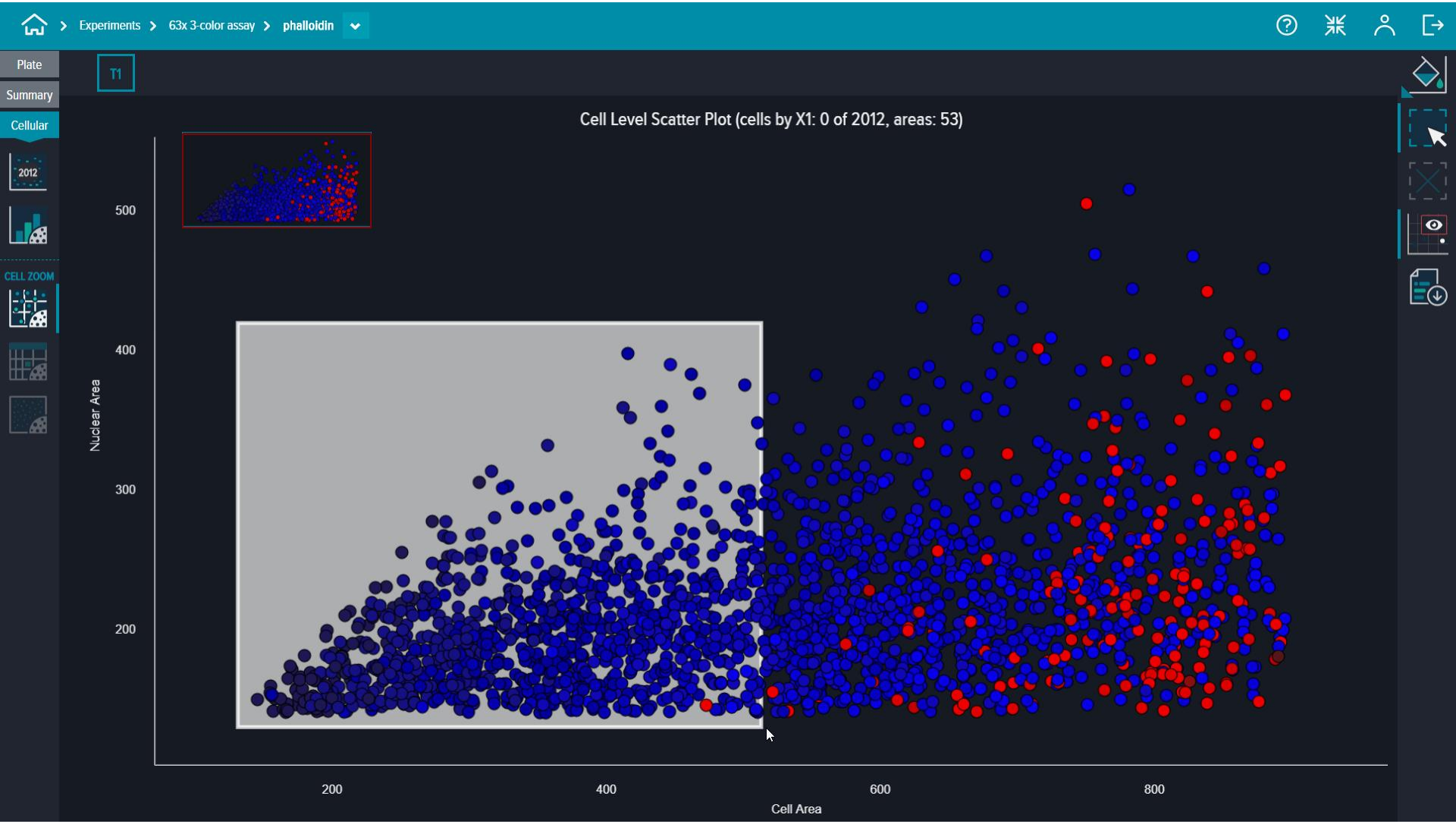
You can also gate cells in the **Cell Level Stacked Bar**. Similar to the summary data (well-by-well) **Stacked Bar**, you can map two measurements as well as heatmap a measurement on the graph.



Gate cells further with the **Cell Level Scatter Plot.**

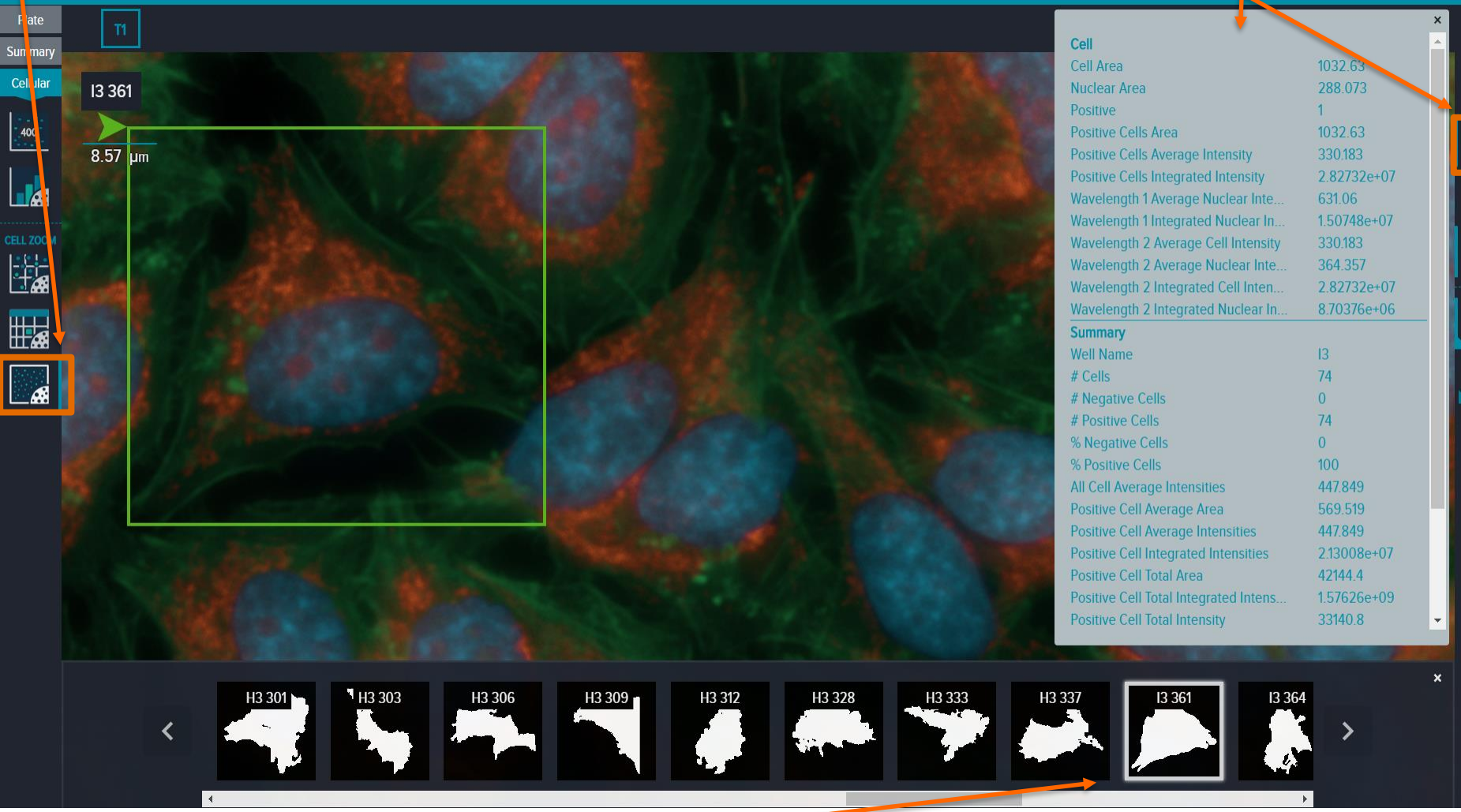


Heatmap a third measurement on the **Cell Level Scatter Plot.** Gate cells by drawing a box around a group of cells.



Once you've gated your cells of interest in the previously mentioned Cellular Data Visualization Tools, open up the high-resolution images of these cells with the **Cell Level Images** icon. Individual cells will be highlighted with a green box.

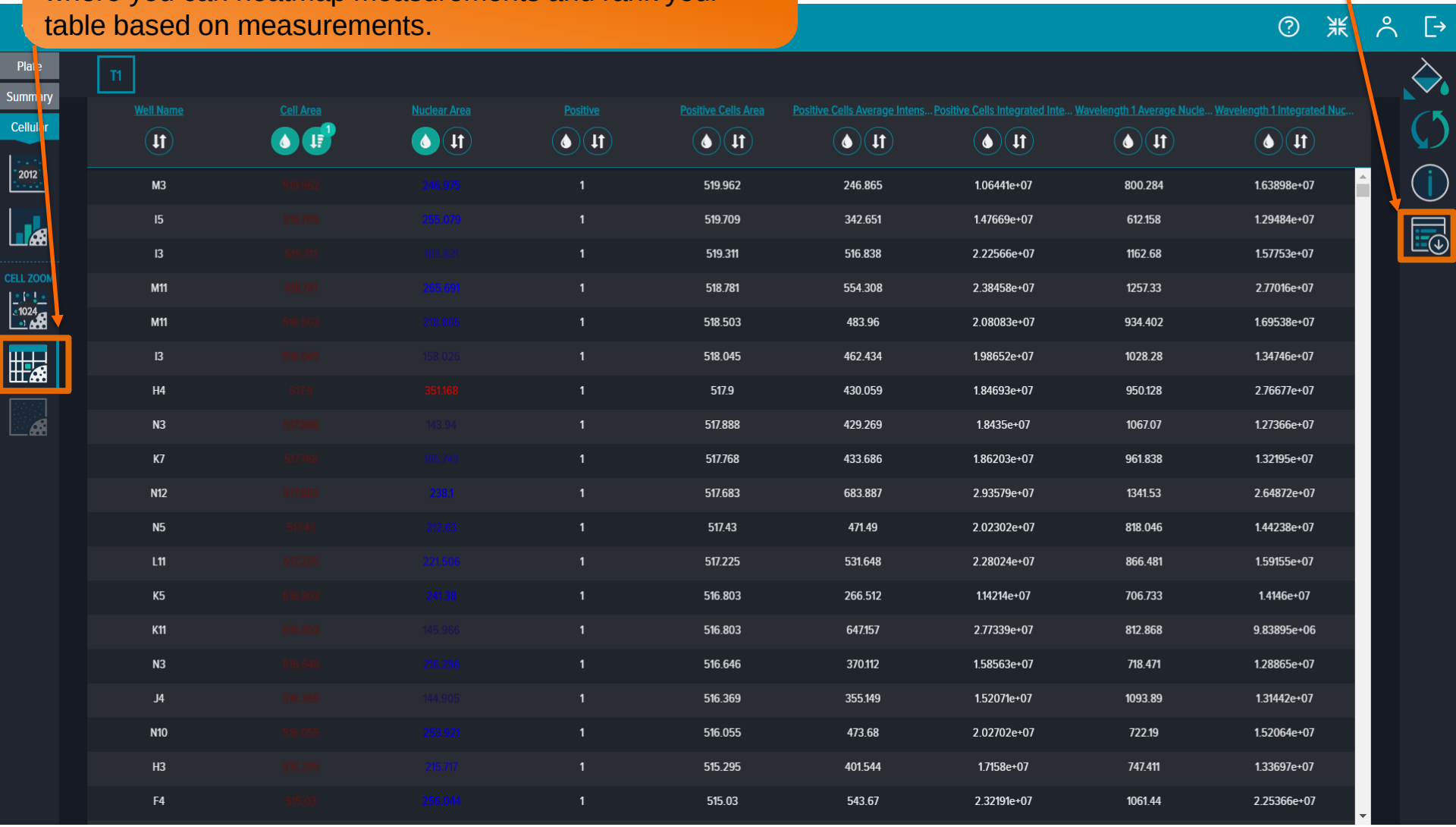
Look at the data analysis measurements for each highlighted cell by selecting the **Cell Info Mode** icon and clicking on the highlighted cell outlined in green.



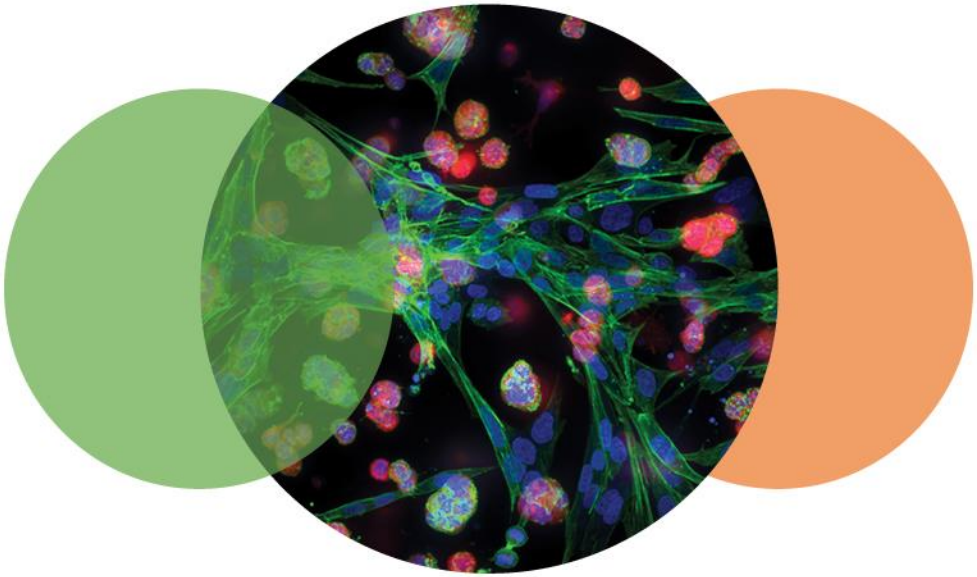
Toggle through the images of all the gated cells with the **Image Gallery.** The white images are the image analysis segmentation masks of the cells. Each cell has a unique identifier (well name_number).

View cell-by-cell data in the **Cell Level Table**. Each row in this table is an individual cell. This table is also interactive, where you can heatmap measurements and rank your table based on measurements.

Export this table into an Excel (.CSV) file by clicking on this **Export** button



Well Name	Cell Area	Nuclear Area	Positive	Positive Cells Area	Positive Cells Average Intens...	Positive Cells Integrated Inte...	Wavelength 1 Average Nucle...	Wavelength 1 Integrated Nuc...
M3	519.962	246.975	1	519.962	246.865	1.06441e+07	800.284	1.63898e+07
I5	519.709	255.079	1	519.709	342.651	1.47669e+07	612.158	1.29484e+07
I3	519.311	163.921	1	519.311	516.838	2.22566e+07	1162.68	1.57753e+07
M11	518.781	265.691	1	518.781	554.308	2.38458e+07	1257.33	2.77016e+07
M11	518.503	216.805	1	518.503	483.96	2.08083e+07	934.402	1.69538e+07
I3	518.045	158.026	1	518.045	462.434	1.98652e+07	1028.28	1.34746e+07
H4	517.9	351.168	1	517.9	430.059	1.84693e+07	950.128	2.76677e+07
N3	517.888	143.94	1	517.888	429.269	1.8435e+07	1067.07	1.27366e+07
K7	517.768	88.743	1	517.768	433.686	1.86203e+07	961.838	1.32195e+07
N12	517.683	238.1	1	517.683	683.887	2.93579e+07	1341.53	2.64872e+07
N5	517.43	212.63	1	517.43	471.49	2.02302e+07	818.046	1.44238e+07
L11	517.225	221.506	1	517.225	531.648	2.28024e+07	866.481	1.59155e+07
K5	516.803	241.38	1	516.803	266.512	1.14214e+07	706.733	1.4146e+07
K11	516.803	145.966	1	516.803	647.157	2.77339e+07	812.868	9.83895e+06
N3	516.646	216.296	1	516.646	370.112	1.58563e+07	718.471	1.28865e+07
J4	516.369	144.905	1	516.369	355.149	1.52071e+07	1093.89	1.31442e+07
N10	516.055	253.921	1	516.055	473.68	2.02702e+07	722.19	1.52064e+07
H3	515.295	215.717	1	515.295	401.544	1.7158e+07	747.411	1.33697e+07
F4	515.03	256.644	1	515.03	543.67	2.32191e+07	1061.44	2.25366e+07



MOLECULAR DEVICES

ADVANCING DISCOVERY