

# CloneSelect Imager Training Guide

## Analyzing Data Post-Imaging



Date Revised 3/22/2017 Version A

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# Chapter Purpose

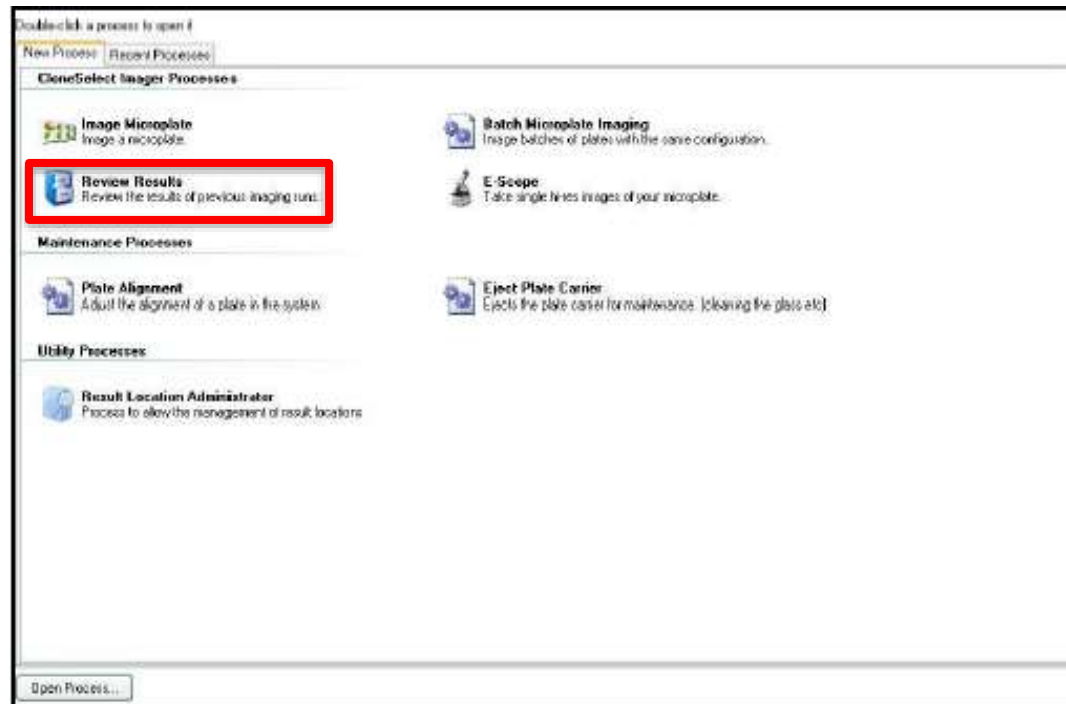
The purpose of this chapter is to illustrate the post-imaging analysis workflow for the CloneSelect Imager.

This guide does not include detailed descriptions around the CSI hardware or other specific imaging/analysis applications. Please refer to corresponding chapters for details on these topics.



# Review Results from Previous Experiment

- To review results of your experiment, click on the **Review Results** icon to select your plate. Note that the **Review Results** dialog also automatically opens at the conclusion of an **imaging process** – this step is only necessary to review and **perform further analysis steps on data from previous experiments.**



# About the Load Results Dialog

Run	Date	Barcode	Wellplate	Operator	Annotation	Disk Space
Archive	17/06/2011 13:53:28	006353	96 Well	Administrator	1 well has been imaged.	6.06 MB
Results	17/06/2011 13:50:37	003026	96 Well	Administrator	60 wells have been imaged.	423.53 MB
Finish	17/06/2011 09:31:55	003026	96 Well	Administrator	12 wells have been imaged.	84.45 MB

- The **Load Results** dialog appears.
- The **default location** where imaging results are stored is the '**C:\Image Archive**' folder.
- All of the **image and data files** for each individual run are stored in a **folder** that is named with the **date and time stamp** for the run, e.g. 2005-11-01T11-52-10.
- Within the **Image Archive** folder, the **run folders** are automatically organized into **separate folders for each month**, e.g. 2006-10.
- When opening the **Review Results** process on the CloneSelect Imager the user is directed straight to the results.
- Plates imaged on the system are displayed as a **list**.
- If **free space** on the disk is running **low**, the **bar** at the top of the window appears **orange** and a warning is displayed in the top right corner. If disk space is getting **critically low** the bar is colored **red**.

# Select Results to View

Warning: Only 21% Free Disk Space Available

Run#	Date	Barcode	Wellplate	Operator	Annotation	Disk Space
Archive	17/06/2011 13:53:28	006359	96 Well	Administrator	1 well has been imaged.	6.06 MB
Results	17/06/2011 13:50:37	003026	96 Well	Administrator	60 wells have been imaged.	423.93 MB
Finish	17/06/2011 09:31:55	003026	96 Well	Administrator	12 wells have been imaged.	84.45 MB

Manage Results  
View  
Export  
Archive  
Delete  
Rename  
Results Selection  
Results Location...  
Other Applications  
Migration

Find: In Field: All Showing 25 of 29

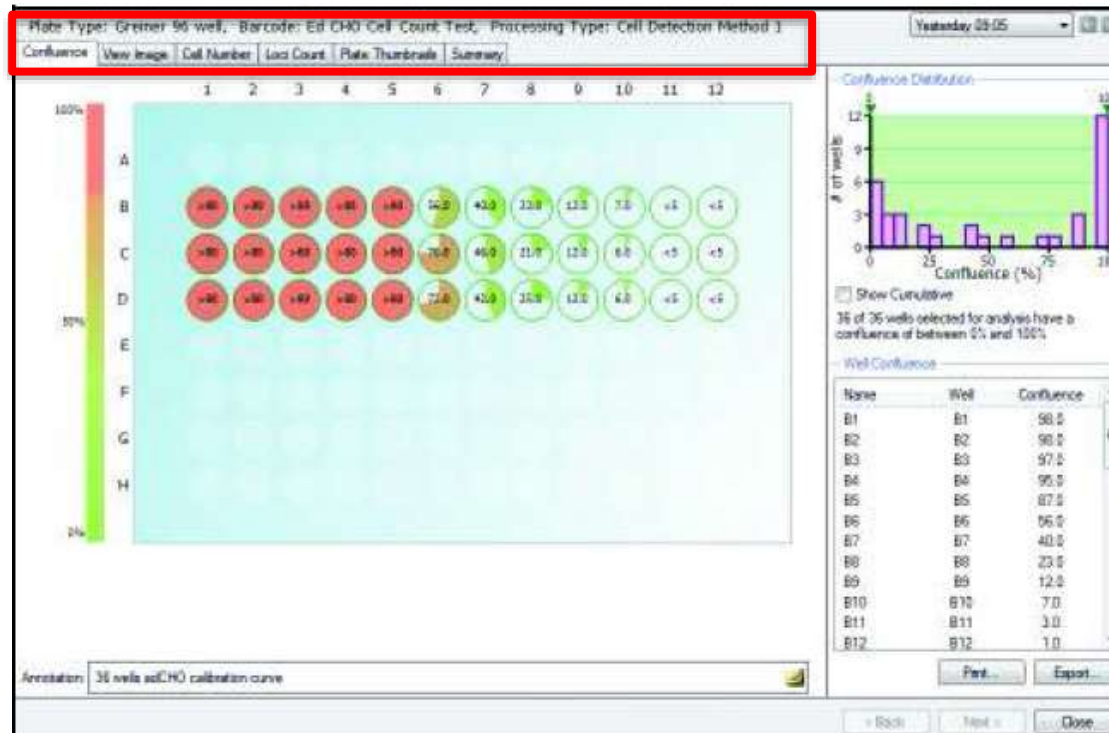
Start Time: 13:55:21

Back Next Cancel

- To view results either **double click on the data set of interest** in the list or click to **highlight the data** and then click **View**.
- **Multiple data sets** can be selected by **holding down the Shift or Control keys** while clicking the data of interest to select contiguous or noncontiguous sets of data, respectively, then click **View**.
- **NOTE: Selecting multiple data sets will be required to proceed with Monoclonality tracking.**

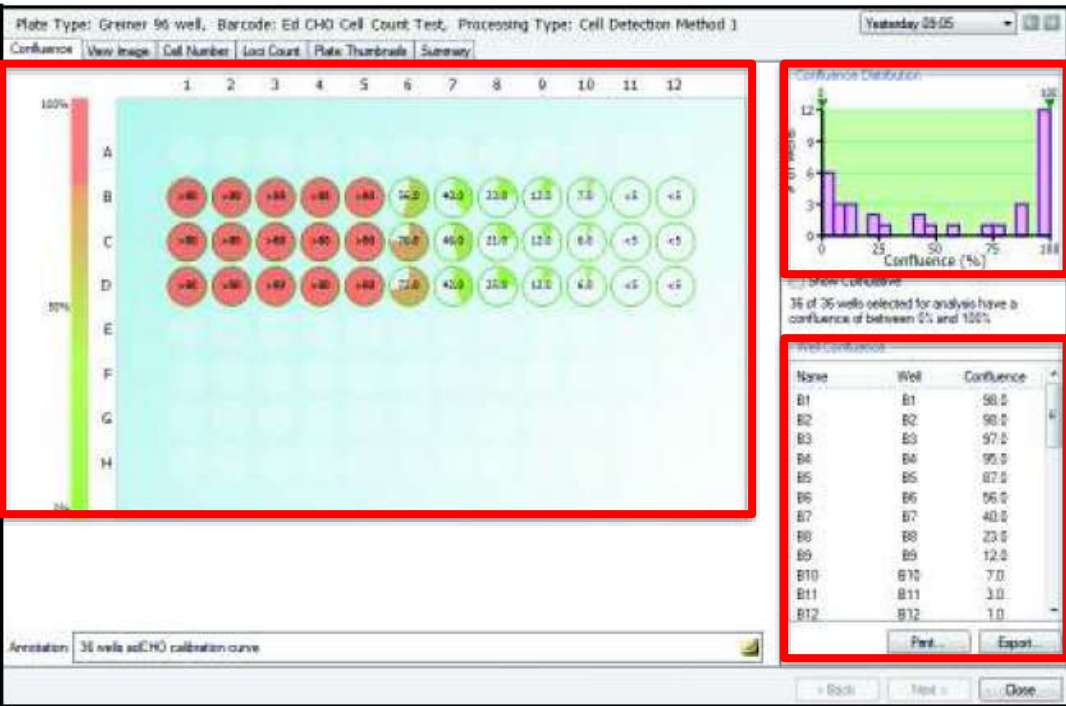
# Analyzing Results

- Once an imaging process has completed the results are displayed in the **Results window**, which has several **tabs**: **Confluence**, **View Image**, **Cell Number**, **Loci Count**, **Plate Thumbnails**, **Growth Rate** and **Summary**.
- This window opens with the **Confluence** tab displayed by default.
- The **Plate Type**, **Barcode** and **Processing Type** are all displayed **above** all the tabs to make it clear which data set is being viewed throughout the processing.



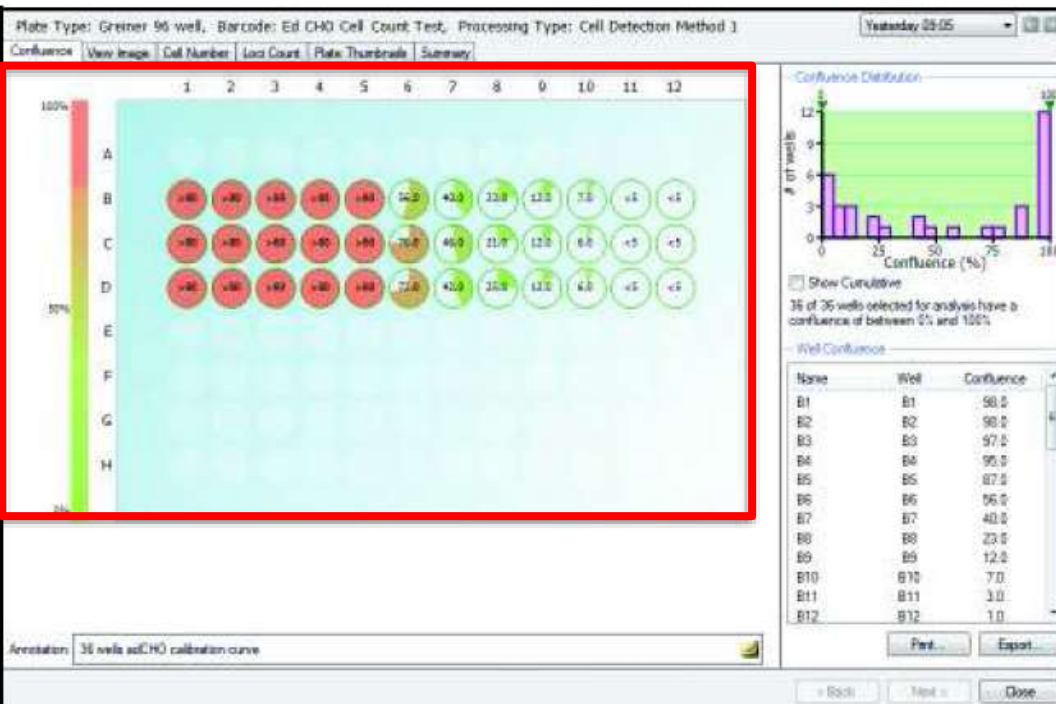
# Confluence Tab

- The Confluence tab displays the **confluence level** for each well, both **graphically** and as a **list**.





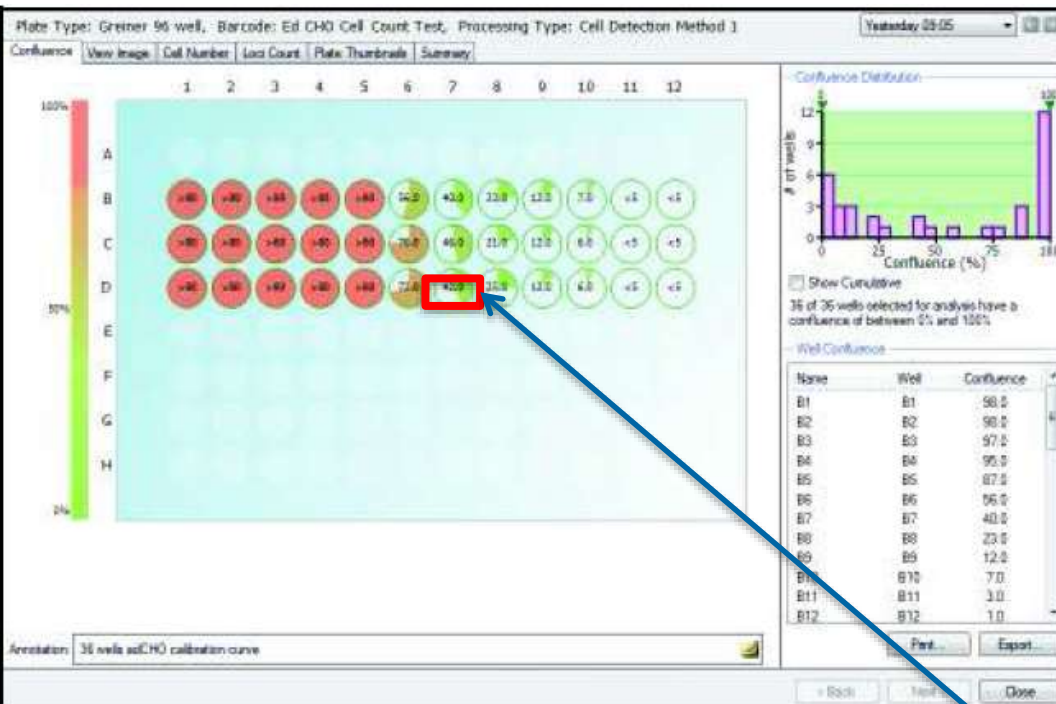
# Confluence Tab – Pie Chart Area



- The Confluence tab displays the **confluence level** for each well, both **graphically** and as a **list**.
- Each well is represented by a **pie chart** of the **confluence level** for that well.
- The pie charts are **color-coded** such that **low confluence** is **green** and **high confluence** is **red** with shades in between representing the intermediate levels.
- **Hovering the mouse** over the pie chart area causes the **percentage confluence** for all the wells to be displayed.
- **Confluence** that is detected as **lower than 5 percent** is displayed as **<5** and **confluence above 80 percent** is displayed as **>80**.



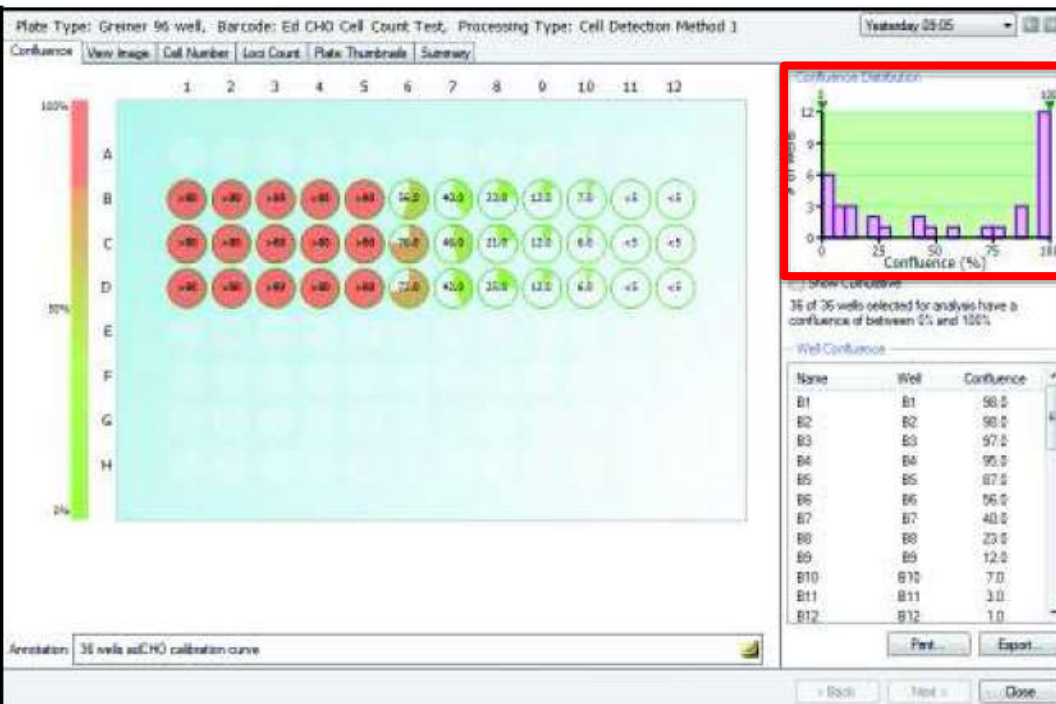
# Confluence Tab – Pie Chart Area



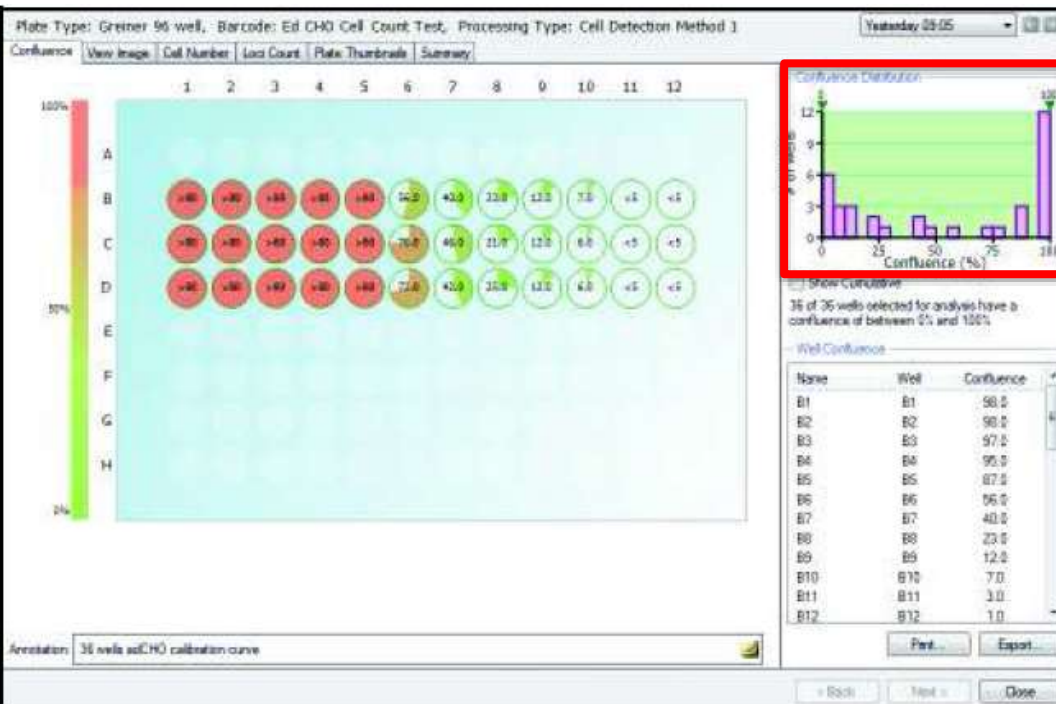
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- Each well is represented by a **pie chart** of the **confluence level** for that well.
- The pie charts are **color-coded** such that **low confluence** is **green** and **high confluence** is **red** with shades in between representing the intermediate levels.
- **Hovering the mouse** over the pie chart area causes the **percentage confluence** for all the wells to be displayed.
- **Confluence** that is detected as **lower than 5 percent** is displayed as **<5** and **confluence above 80 percent** is displayed as **>80**.
- **Hovering over a well** causes a **tool tip** to appear displaying the **well co-ordinate** and the **confluence** for that well.
- **Clicking on a well** will display the **well image** in the **View Image** tab.
- **Right clicking** on the overview will allow the **overview to be copied to clipboard**.

# Confluence Tab – Confluence Distribution

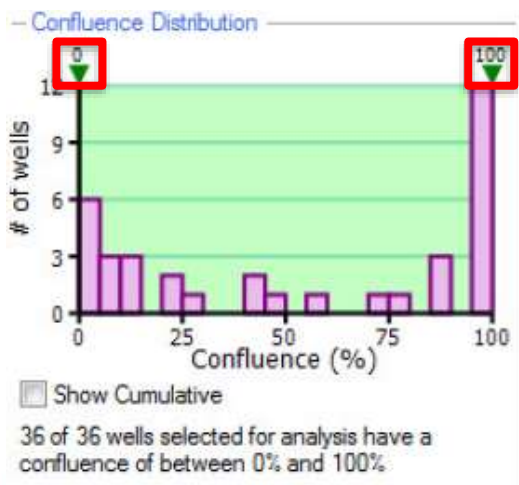
- The **bar chart** at the top right of the Confluence tab window plots the **number of wells with a given confluence level**.



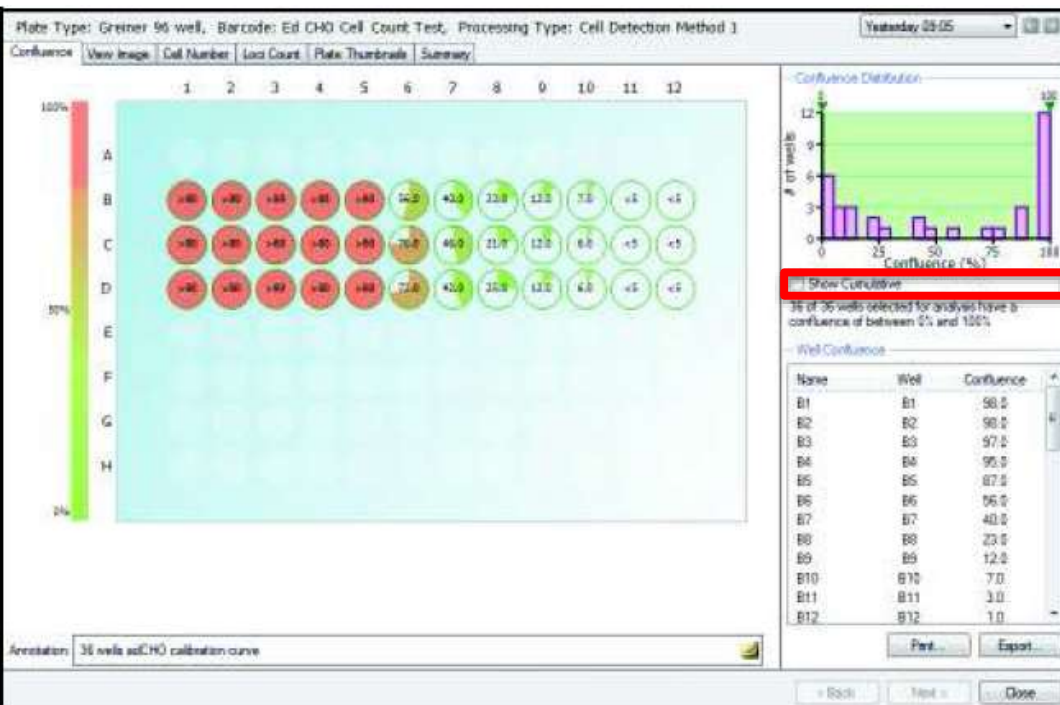
# Confluence Tab – Confluence Distribution



- The **bar chart** at the top right of the Confluence tab window plots the **number of wells with a given confluence level**.
- Dual Gates:** The **green arrows** pointing down at the **top of the bar chart** can be dragged across the chart to select a **subset range** of confluence data to display.
  - Any wells that do not fall inside these lower and upper gates will be **grayed out**.
  - The **text displayed below** the chart will update to show the **number of wells that fall within the selected confluence range**.

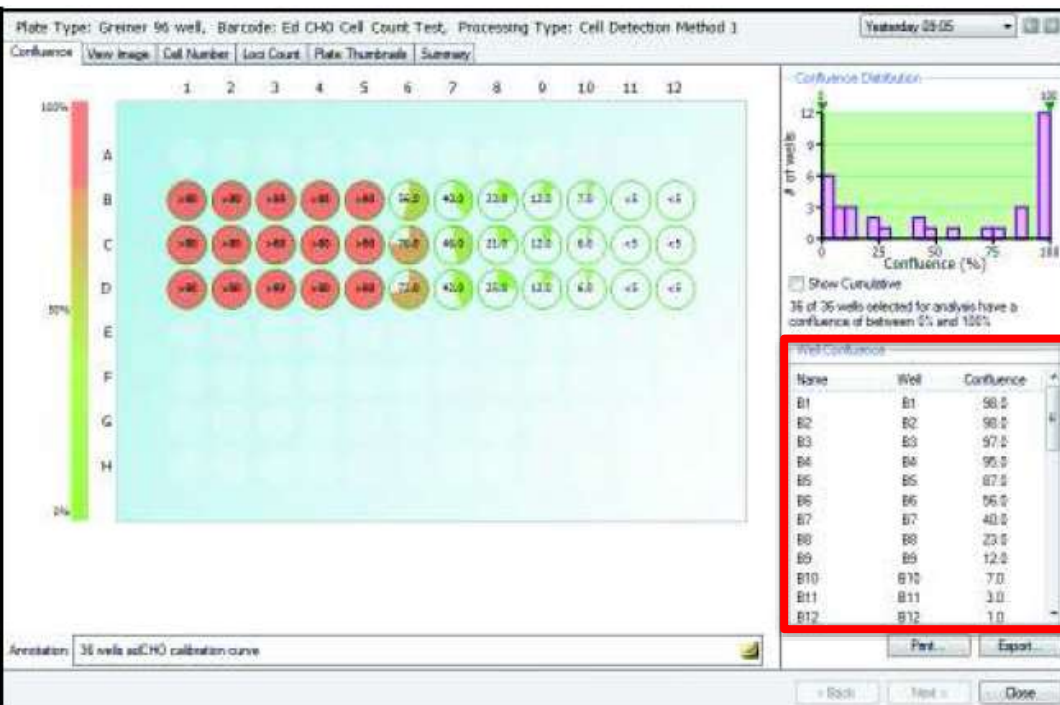


# Confluence Tab – Confluence Distribution



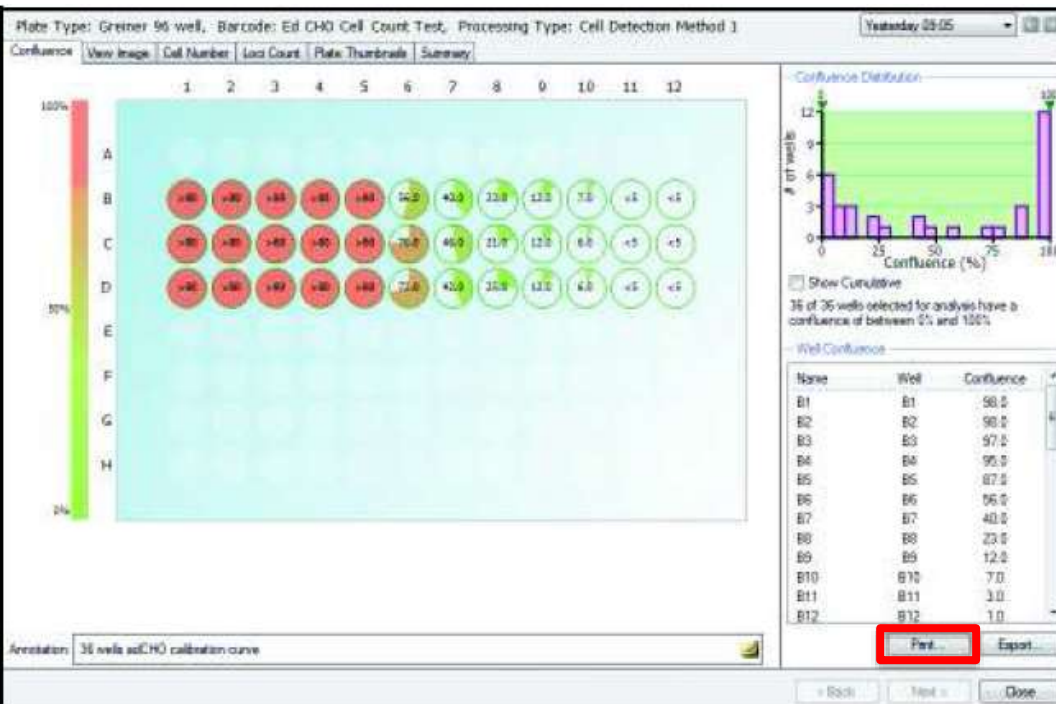
- The **bar chart** at the top right of the Confluence tab window plots the **number of wells with a given confluence level**.
- **Dual Gates:** The **green arrows** pointing down at the **top of the bar chart** can be dragged across the chart to select a **subset range** of confluence data to display.
  - Any wells that do not fall inside these lower and upper gates will be **grayed out**.
  - The **text displayed below** the chart will update to show the **number of wells that fall within the selected confluence range**.
- **Show Cumulative:** Select this option to **merge** the individual bars in the chart to show the confluence as **continuous data**.

# Confluence Tab – Well Confluence

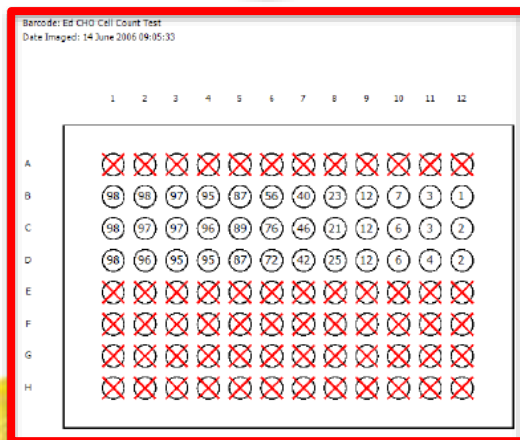


- The confluence for each well is displayed in a **list** format with the **Well Confluence** field on the Confluence tab.
- If desired the **well name** can be **changed** in this list by **clicking twice on the well name** of choice and editing the text.

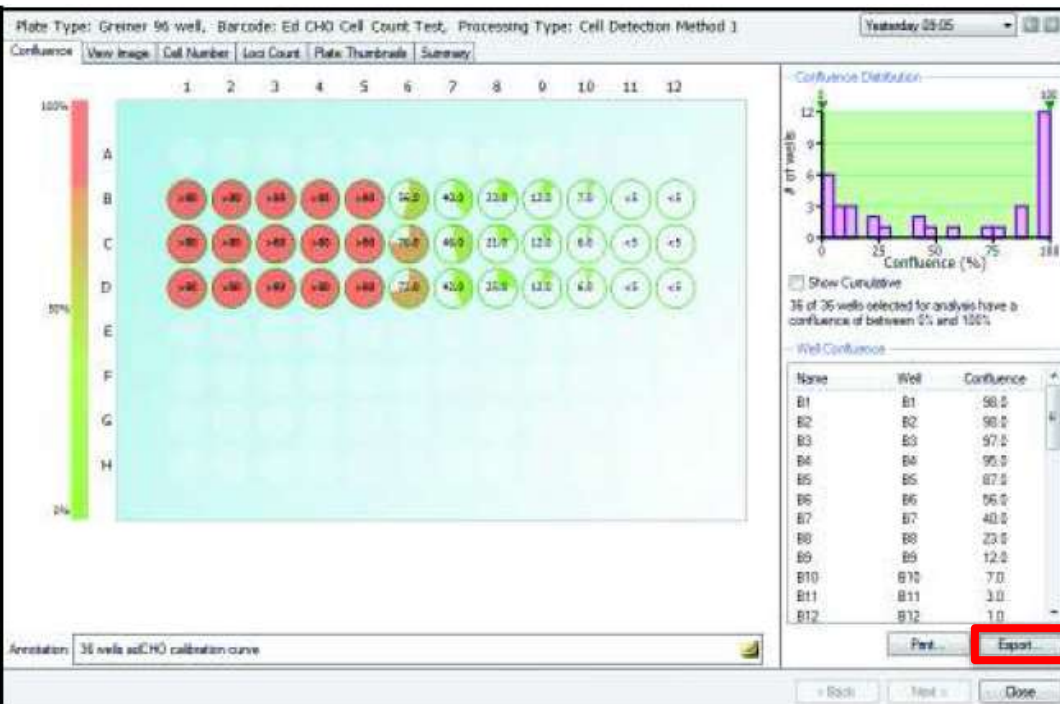
# Confluence Tab – Well Confluence



- The confluence for each well is displayed in a **list format** with the **Well Confluence** field on the Confluence tab.
- If desired the **well name** can be **changed** in this list by **clicking twice on the well name** of choice and editing the text.
- Print:** This option will print a **schematic presentation of the confluence overview in the plate format**. The **confluence values** are displayed **within the wells** and the **plate details** are displayed at the **top of the overview**.



# Confluence Tab – Well Confluence



- The confluence for each well is displayed in a **list format** with the **Well Confluence** field on the Confluence tab.
- If desired the **well name** can be **changed** in this list by **clicking twice on the well name** of choice and editing the text.
- Print:** This option will print a **schematic presentation of the confluence overview in the plate format**. The **confluence values** are displayed **within the wells** and the **plate details** are displayed at the **top of the overview**.
- Export:** Launches a **Data Export wizard** that enables export of the **list of wells** and the corresponding **confluence** as a **.csv or .xml file**.
  - Cell Number** and **Loci Count (if feature is enabled)** data can also be exported at this point.

Data Export

Select the type of results that you want to include

Confluence

Cell Number

Select Cell Number Threshold

Low

Loci Count (May require time to generate data)

Low Criteria

Min. Loci Count: 4.00 [OK]

Maximum Area: 20.0 [OK] Minimum Concentration: 10 [OK]

Minimum Area: 20000.0 [OK] Maximum Concentration: 80 [OK]

Maximum Area: 200.0

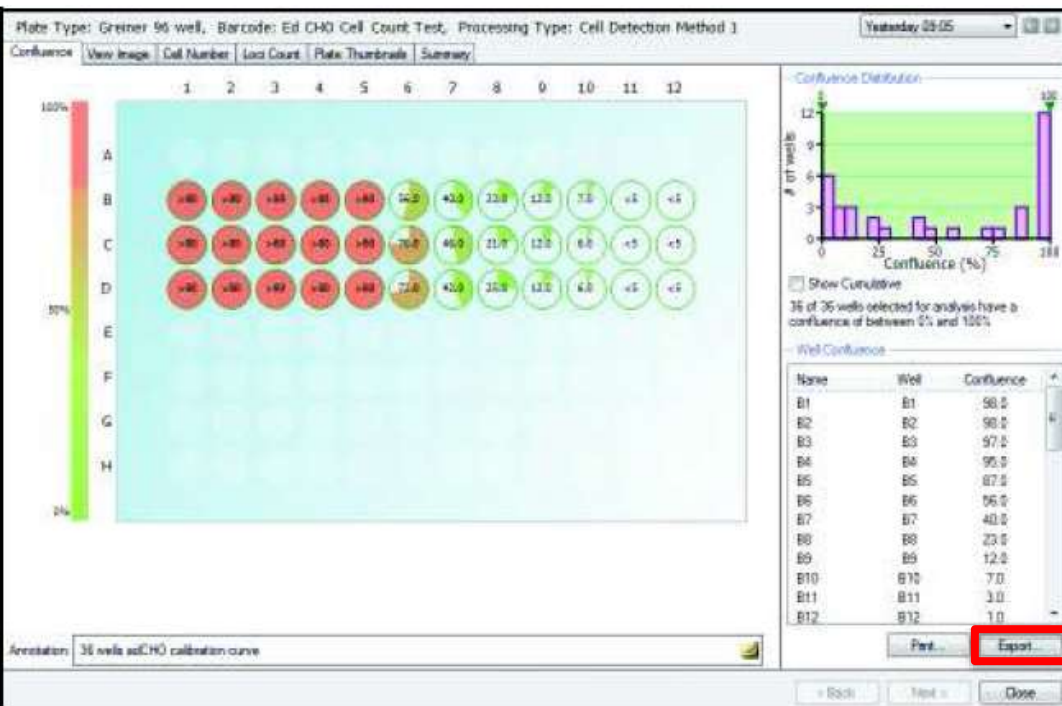
Calculate gene distribution

Calculate gene and concentration for all loci

Previous Next Cancel



# Confluence Tab – Well Confluence



- The confluence for each well is displayed in a **list format** with the **Well Confluence** field on the Confluence tab.

- If desired the **well name** can be **changed** in this list by **clicking twice on the well name** of choice and editing the text.

- Print:** This option will print a **schematic presentation of the confluence overview in the plate format**. The **confluence values** are displayed **within the wells** and the **plate details** are displayed at the **top of the overview**.

- Export:** Launches a **Data Export wizard** that enables export of the **list of wells** and the corresponding **confluence** as a **.csv or .xml file**.

- Cell Number** and **Loci Count** data can also be exported at this point.

- The wizard provides the option to export the data for the following **time points**:

Select the type of results that you want to include:

Confluence

Cell Number

Loci Count (May require time to generate data)

Loci Count

Copy gene distribution

Copy gene and confluence data for all loci

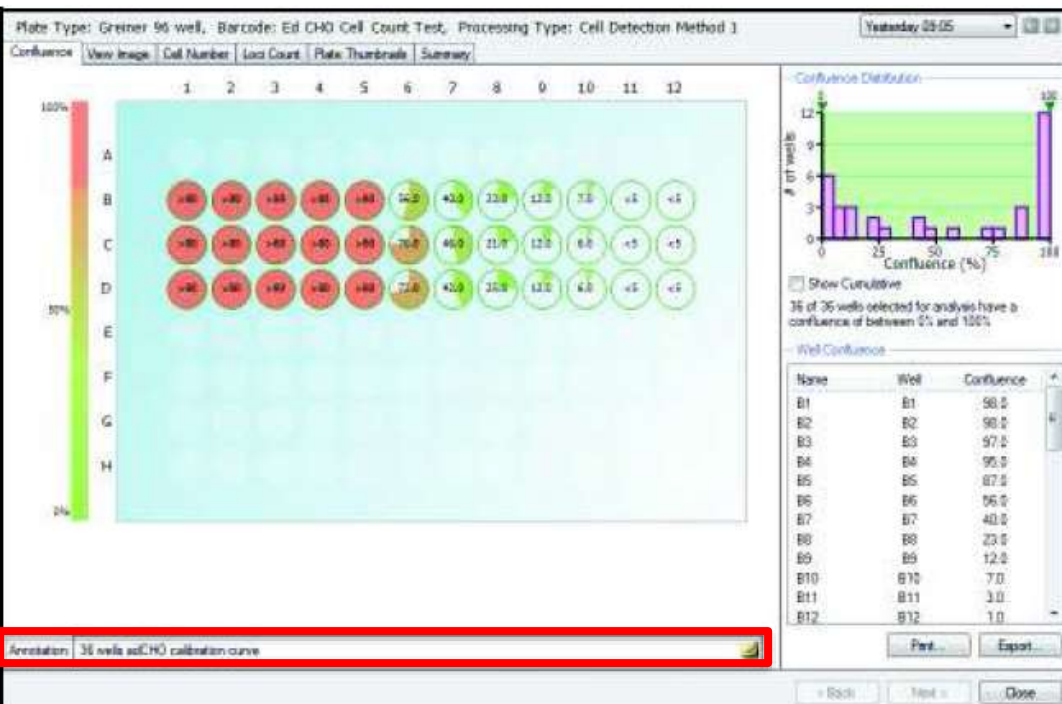
Select which time points to export:

The currently selected time

The most recent time for each well plate

The complete time series

# Confluence Tab – Well Confluence



- The confluence for each well is displayed in a **list format** with the **Well Confluence** field on the Confluence tab.

- If desired the **well name** can be **changed** in this list by **clicking twice on the well name** of choice and editing the text.

- Print:** This option will print a **schematic presentation of the confluence overview in the plate format**. The confluence values are displayed **within the wells** and the **plate details** are displayed at the **top of the overview**.

- Export:** Launches a **Data Export wizard** that enables export of the **list of wells** and the corresponding **confluence** as a **.csv or .xml file**.

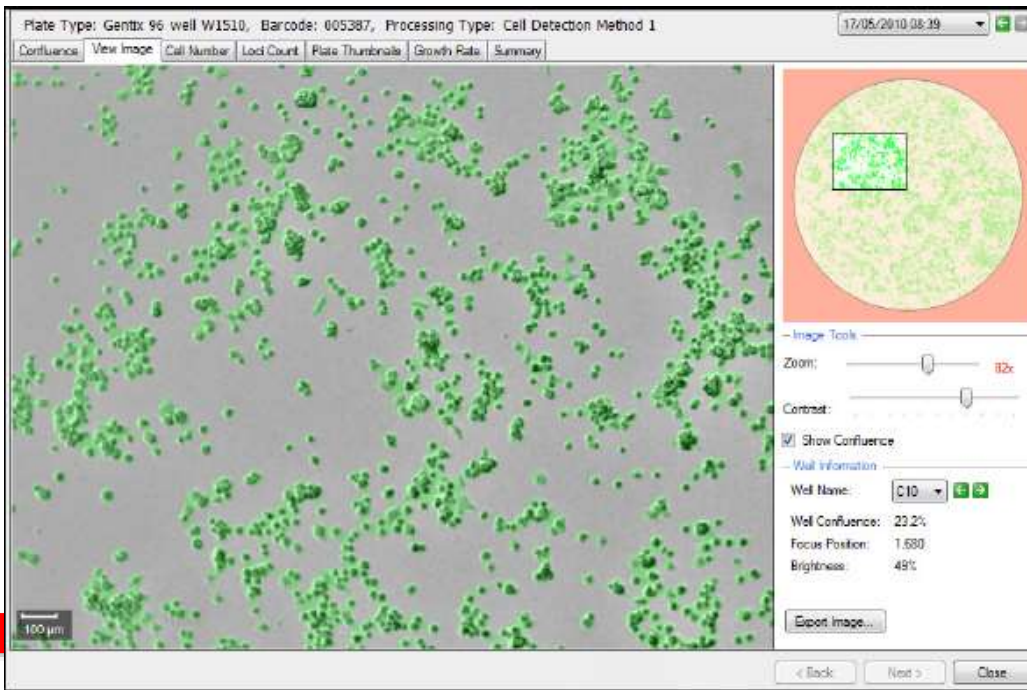
- Cell Number** and **Loci Count** data can also be exported at this point.
- The wizard provides the option to export the data for the following **time points**:

## ANNOTATION

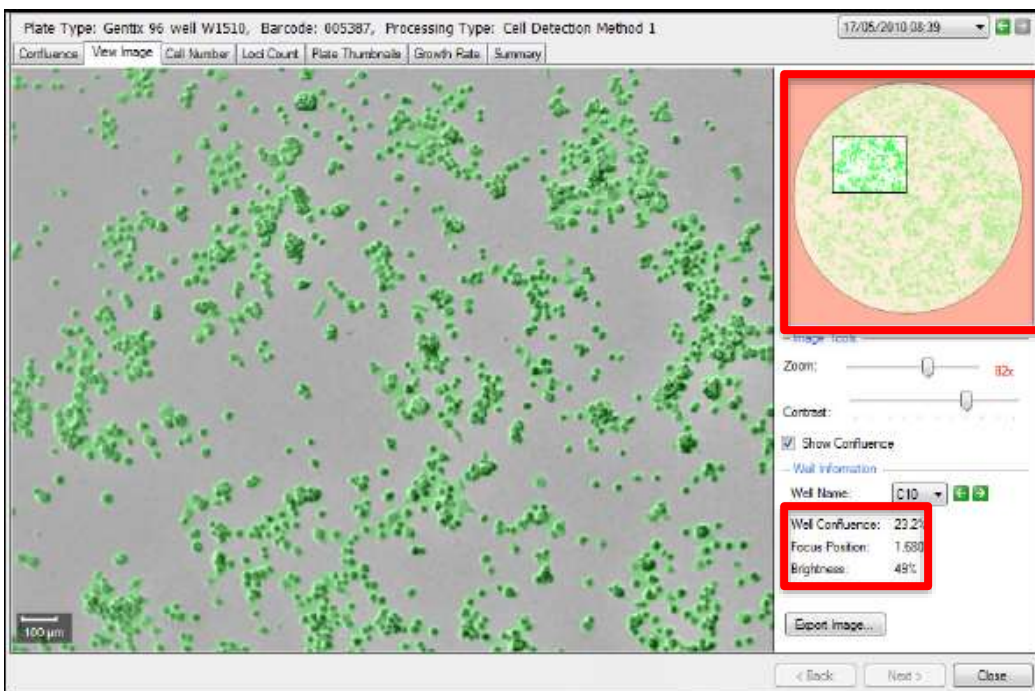
- By default the **Annotation** text box displays the **number of wells that have been imaged**.
- This field **can** be edited to more meaningful annotation.
- Note: This information **cannot** be changed when viewing the data through a **remote data viewer**.

# View Image Tab

- The **View Image** tab displays the **images** for a **selected well**. The **whole well** is displayed.

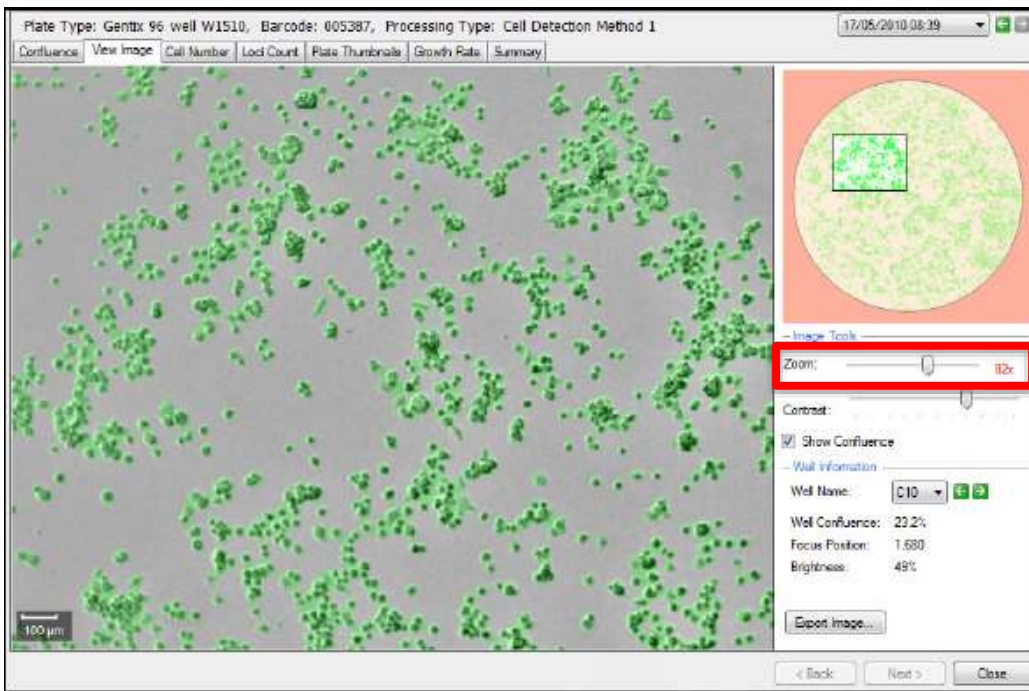


# View Image Tab



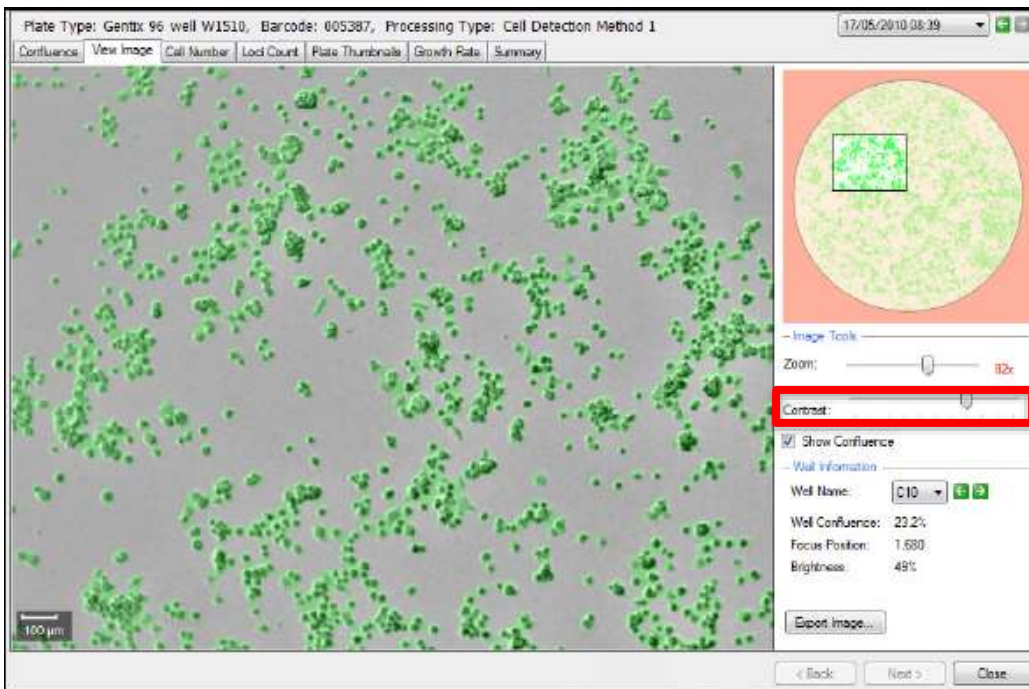
- The **View Image** tab displays the **images** for a **selected well**. The **whole well** is displayed.
- **Well Schematic:** By clicking on the image of the well currently being displayed, it is possible to navigate to different areas of the well and this is reflected on the **image schematic** to the right. The **confluence levels** of the currently selected whole well are displayed **below the schematic**.

# View Image Tab



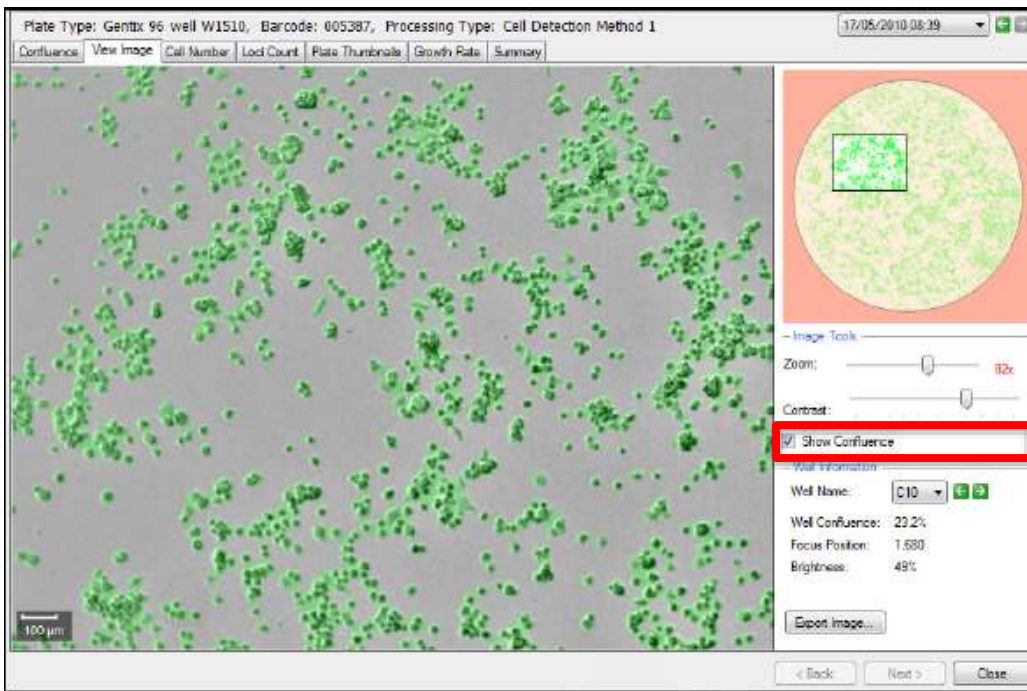
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- **Image Tools:**
  - **Zoom** – This **slider** can be moved either **left** or **right** to zoom **out** or **in** respectively. When the figure turns **red** the system is zooming digitally and which may cause some **pixilation** of the image. When zoomed into an image, the **zoomed area** will be **displayed on the image thumbnail** to the right.

# View Image Tab



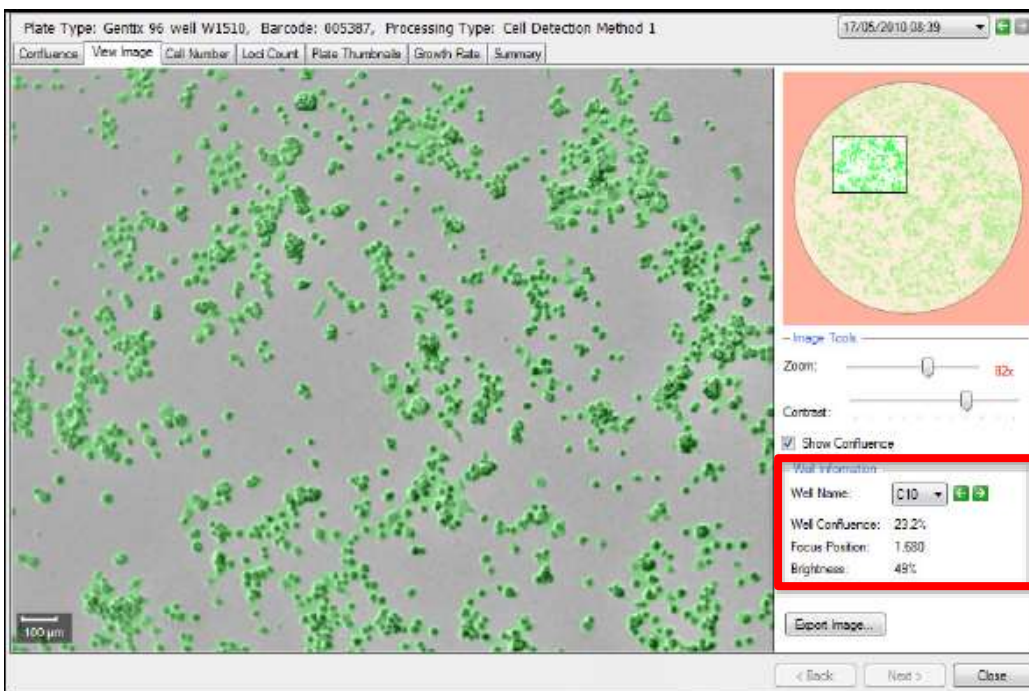
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  - **Contrast:** The **contrast** of the image displayed can be altered by changing this **slider**.

# View Image Tab



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  - **Contrast:** The **contrast** of the image displayed can be altered by changing this **slider**.
  - **Show Confluence:** Checking this box will display the **confluence detected** within the well. **Detected objects** are displayed in **green**.

# View Image Tab



- The **Well Information** field contains the following information about the displayed image:
  - **Well Name:** Using the **drop down** menu or the **arrows** it is possible to **toggle** to the well of choice.
  - **Well Confluence:** The **well confluence percentage** is displayed here for the selected well.
  - **Focus Position:** The **focus point** of the image when captured is displayed here.
  - **Brightness:** The **brightness level used to capture the image** is displayed as a percentage here.

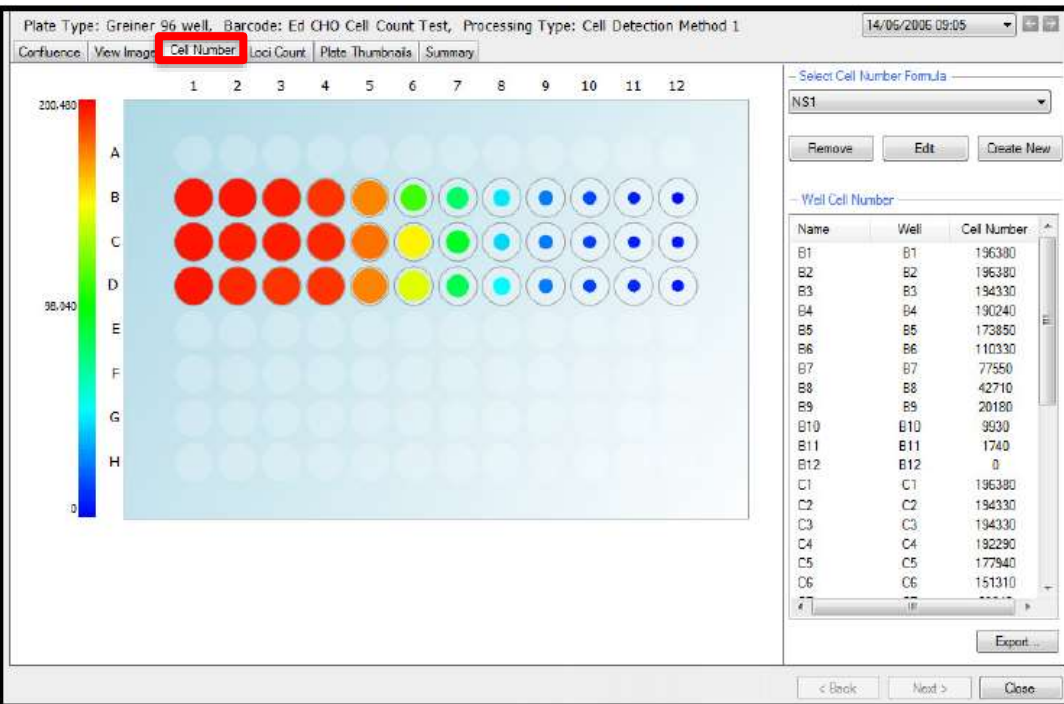


# View Image Tab



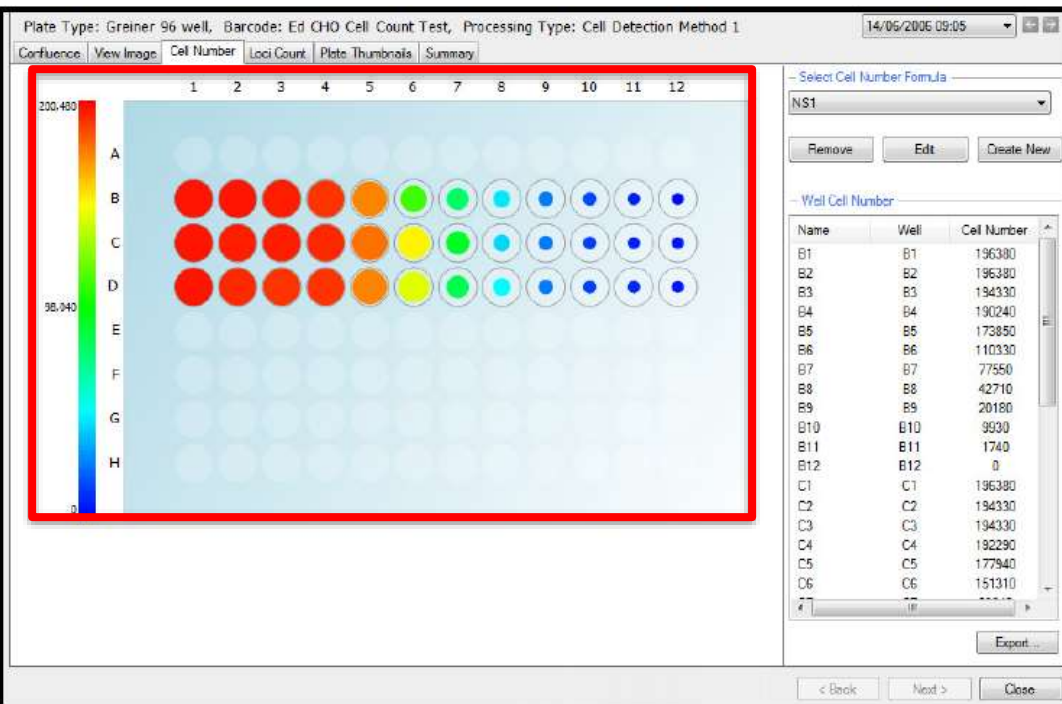
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  - **Well Name:** Using the **drop down** menu or the **arrows** it is possible to **toggle** to the well of choice.
  - **Well Confluence:** The **well confluence percentage** is displayed here for the selected well.
  - **Focus Position:** The **focus point** of the image when captured is displayed here.
  - **Brightness:** The **brightness level used to capture the image** is displayed as a percentage here.
- **Export Image:** Click this button to export the current image as it is displayed.
  - It is possible to the export the currently displayed image in **.bmp**, **.jpg** or **.png** format.
  - If **Show Confluence** has been selected, the **confluence overlay** is displayed with the exported image.
  - The **zoomed position** is also saved within the image.

# Cell Number Tab



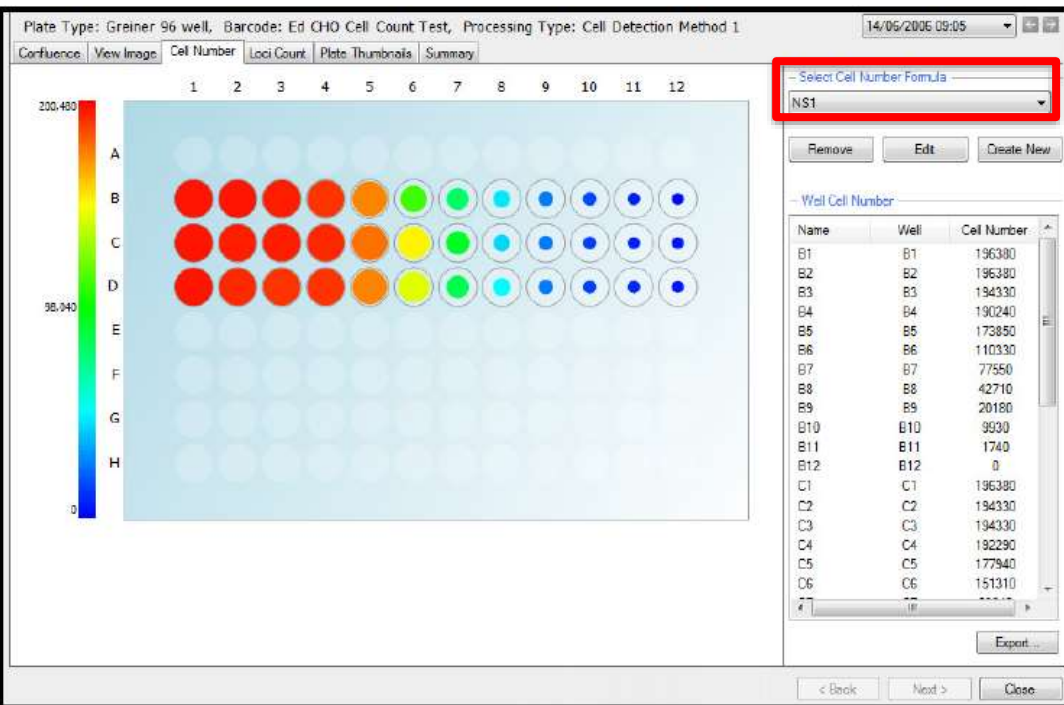
- The **Cell Number** tab displays the **estimated number of cells in each well**, both graphically and as a list.
- The number of cells is estimated using a **formula** that can be created for each **cell type** from the **confluence readings of a standard plate containing known numbers of cells** (see **Appendix C of the User Manual** for detailed protocol).

# Cell Number Tab



- The **Cell Number** tab displays the **estimated number of cells in each well**, both graphically and as a list.
- The number of cells is estimated using a **formula** that can be created for each **cell type** from the **confluence readings** of a **standard plate** containing known numbers of cells (see **Appendix C** of the **User Manual** for detailed protocol).
- Each well in the display contains a **colored fill** with the **estimated cell number** indicated by the **color and size of the fill area**, with a **large red fill area** representing a **high cell number** and a **small blue fill area** representing a **low cell number**.
  - A **color scale** is shown to the left of the graphic.
  - Hovering the mouse over a well displays a **tool tip** giving the **well co-ordinate** and the **estimated cell number** for that well.

# Cell Number Tab: Select Cell Number Formula



- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.

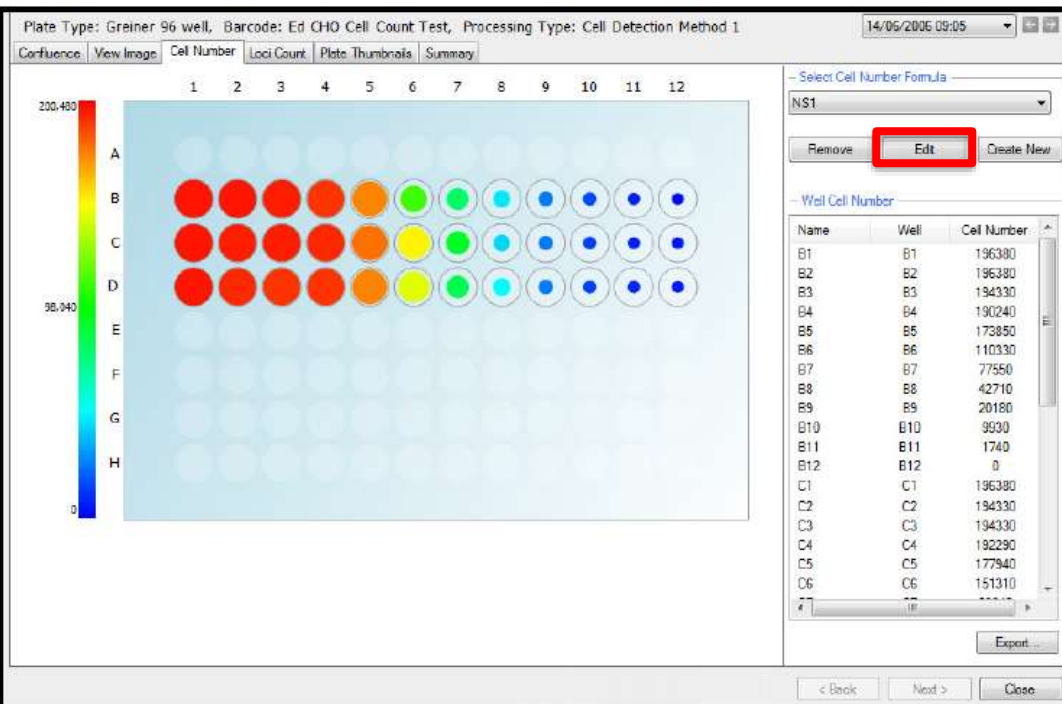
# Cell Number Tab: Remove Cell Number Formula

The screenshot shows the 'Cell Number' tab in a software interface. The top bar displays 'Plate Type: Greiner 96 well, Barcode: Ed CHO Cell Count Test, Processing Type: Cell Detection Method 1' and the date '14/05/2006 09:05'. Below the bar are tabs for 'Confluence', 'View Image', 'Cell Number', 'LocI Count', 'Plate Thumbnails', and 'Summary'. The main area features a 96-well plate heatmap with columns 1-12 and rows A-H. A color scale on the left ranges from 0 (blue) to 200,480 (red). The right panel, titled 'Select Cell Number Formula', shows a dropdown menu with 'NS1' selected. Below the dropdown are buttons for 'Remove', 'Edit', and 'Create New'. The 'Remove' button is highlighted with a red box. Below this is a table titled 'Well Cell Number' with columns 'Name', 'Well', and 'Cell Number'. The table lists data for wells B1 through C6. At the bottom of the interface are buttons for '< Back', 'Next >', and 'Close'.

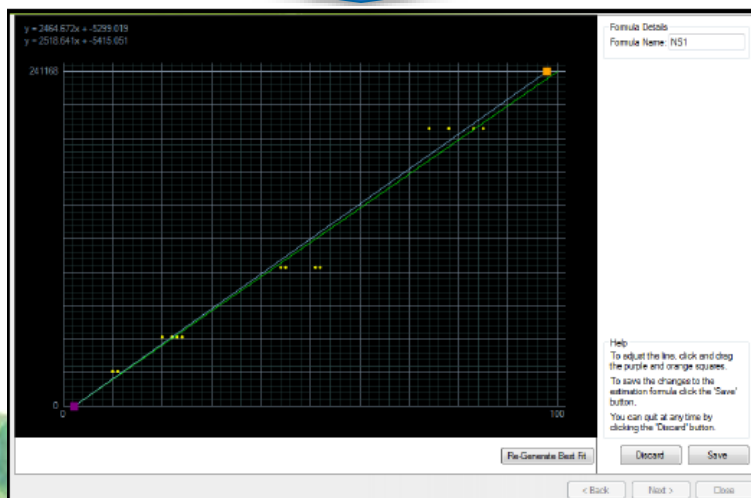
Name	Well	Cell Number
B1	B1	196380
B2	B2	196380
B3	B3	194330
B4	B4	190240
B5	B5	173850
B6	B6	110330
B7	B7	77550
B8	B8	42710
B9	B9	20180
B10	B10	9930
B11	B11	1740
B12	B12	0
C1	C1	196380
C2	C2	194330
C3	C3	194330
C4	C4	182290
C5	C5	177940
C6	C6	151310

- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will **remove the currently selected cell number formula** from the **drop down menu**.

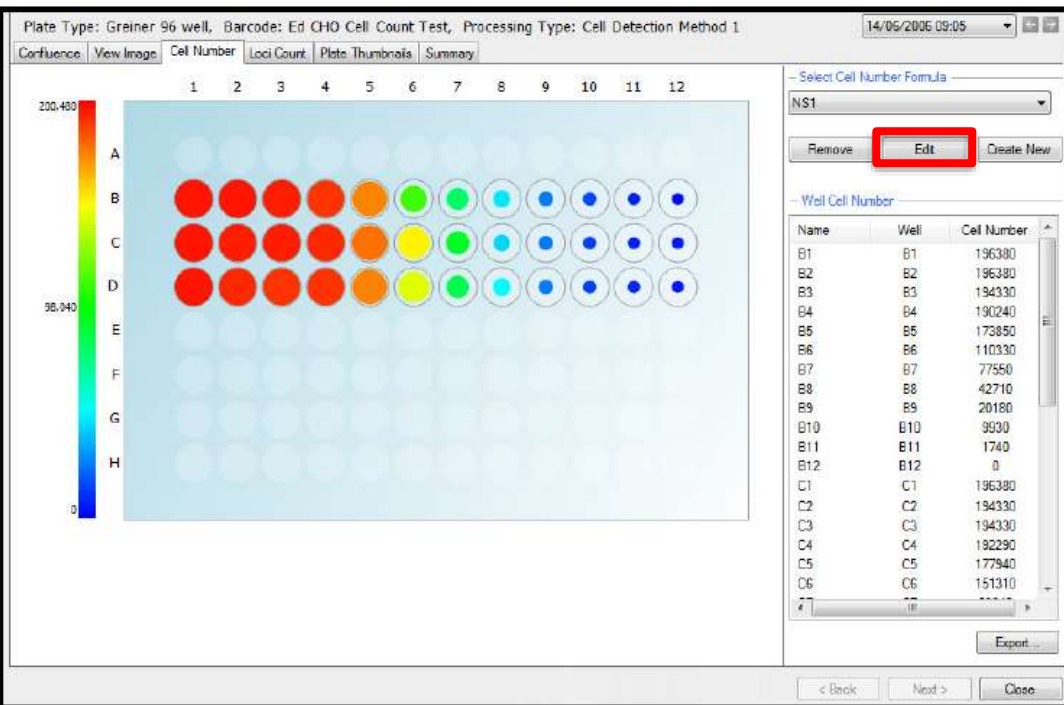
# Cell Number Tab: Edit Cell Number Formula



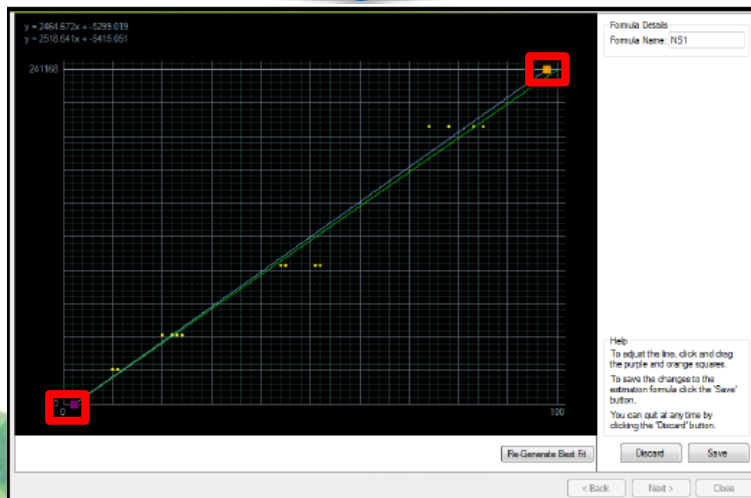
- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will remove the currently selected cell number formula from the drop down menu.
- **Edit:** Clicking this will allow editing to be carried out on the currently selected cell number formula from the drop down menu.
  - A graph of cell number against confluence for the formula is displayed.



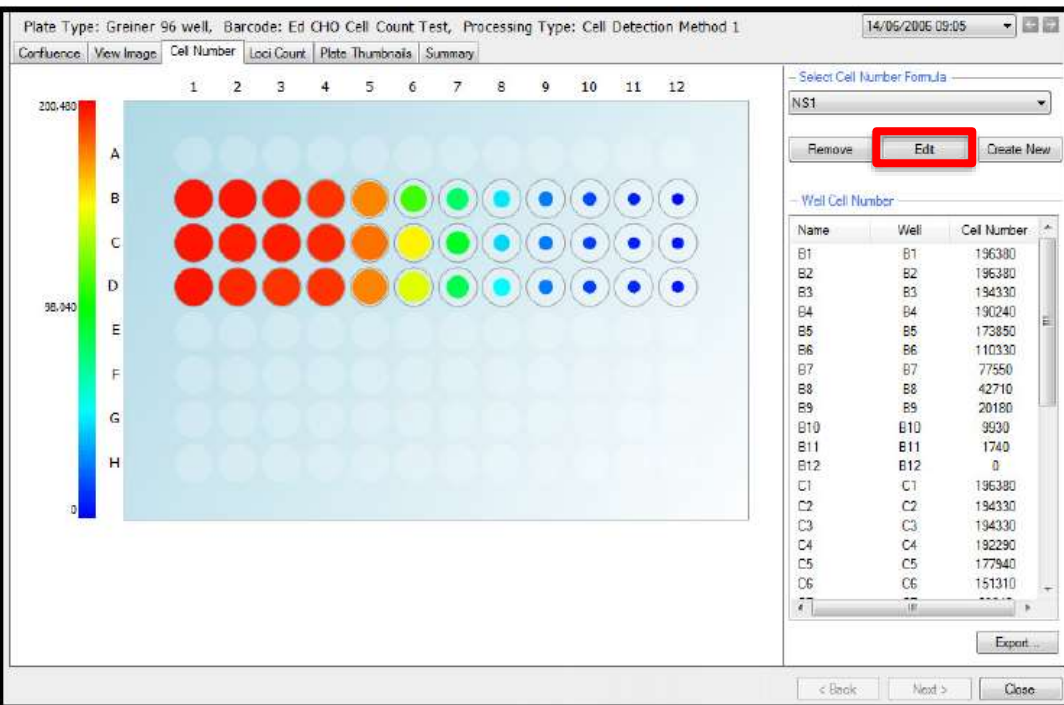
# Cell Number Tab: Edit Cell Number Formula



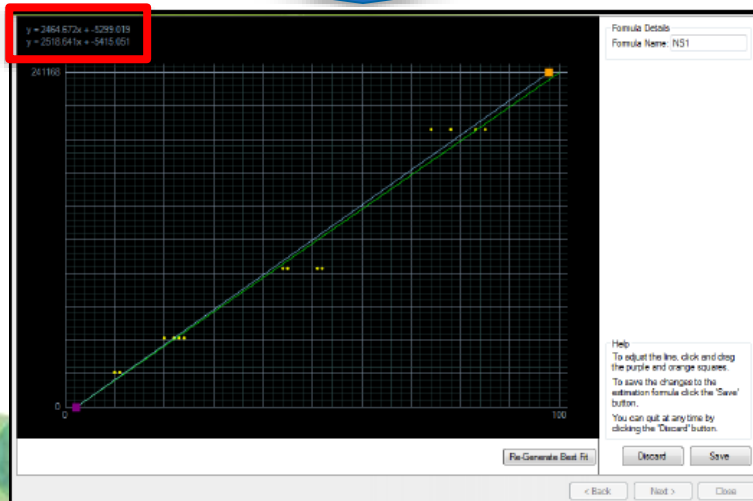
- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will remove the currently selected cell number formula from the drop down menu.
- **Edit:** Clicking this will allow editing to be carried out on the currently selected cell number formula from the drop down menu.
  - A graph of cell number against confluence for the formula is displayed.
  - The handles at each end of the line can be dragged to edit the formula.



# Cell Number Tab: Edit Cell Number Formula

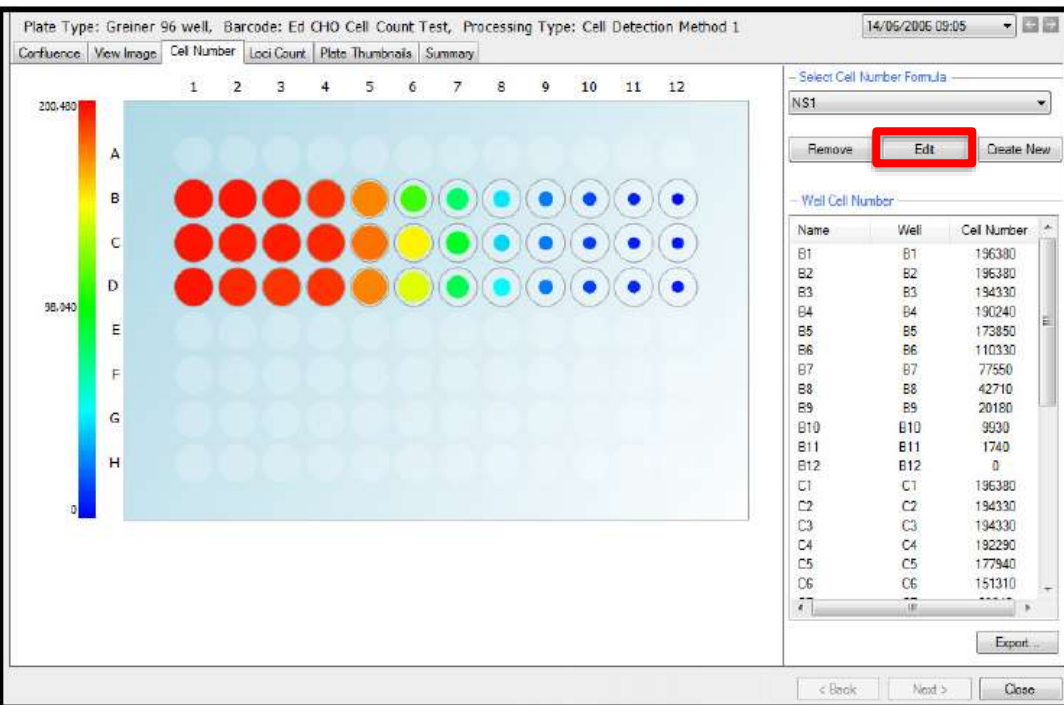


- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will remove the currently selected cell number formula from the drop down menu.
- **Edit:** Clicking this will allow editing to be carried out on the currently selected cell number formula from the drop down menu.
  - A graph of cell number against confluence for the formula is displayed.
  - The handles at each end of the line can be dragged to edit the formula.
  - The formula is displayed at the top left and the edited version is displayed immediately below it.

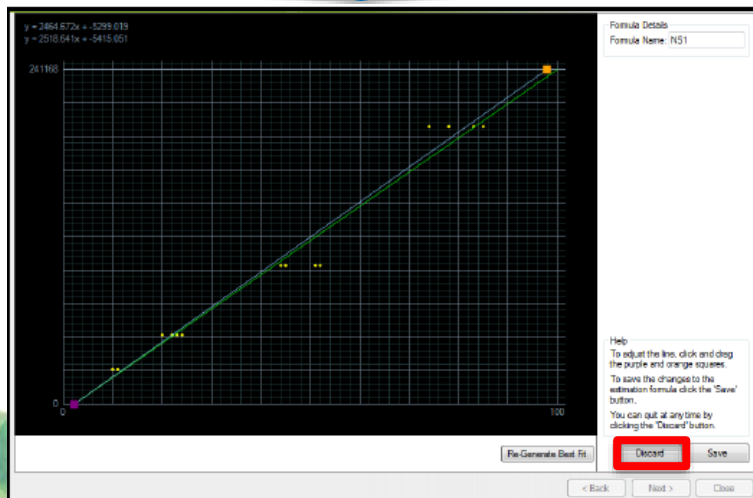




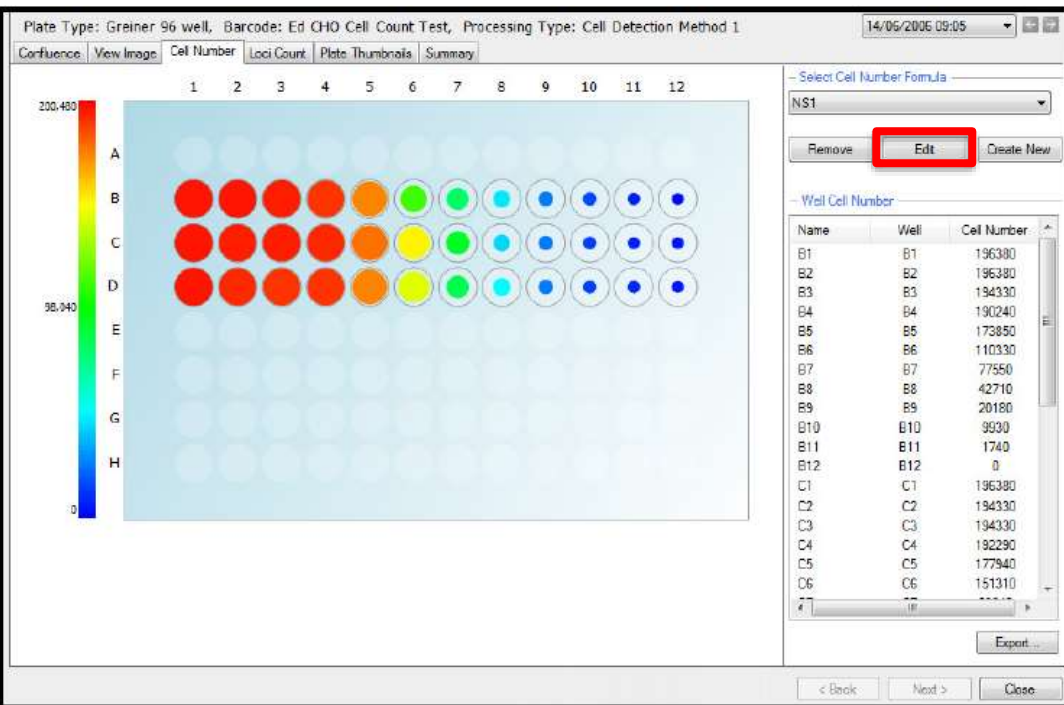
# Cell Number Tab: Edit Cell Number Formula



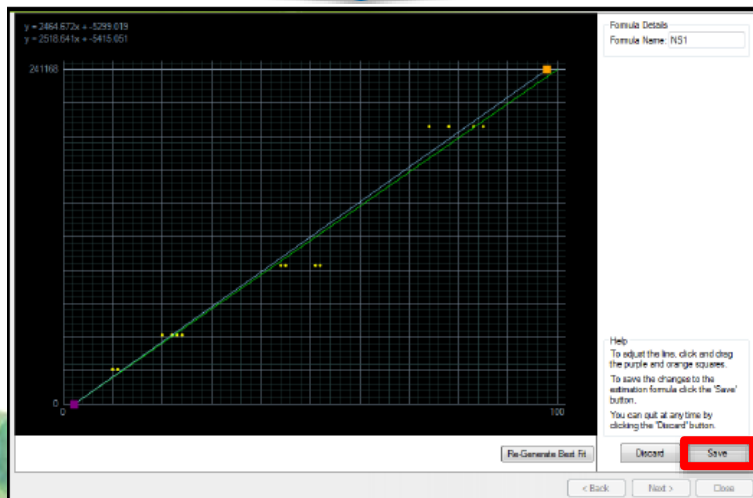
- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will remove the currently selected cell number formula from the drop down menu.
- **Edit:** Clicking this will allow editing to be carried out on the currently selected cell number formula from the drop down menu.
  - A graph of cell number against confluence for the formula is displayed.
  - The handles at each end of the line can be dragged to edit the formula.
  - The formula is displayed at the top left and the edited version is displayed immediately below it.
  - **Discard:** Click this button to abandon the edits and return to the Cell Number tab.



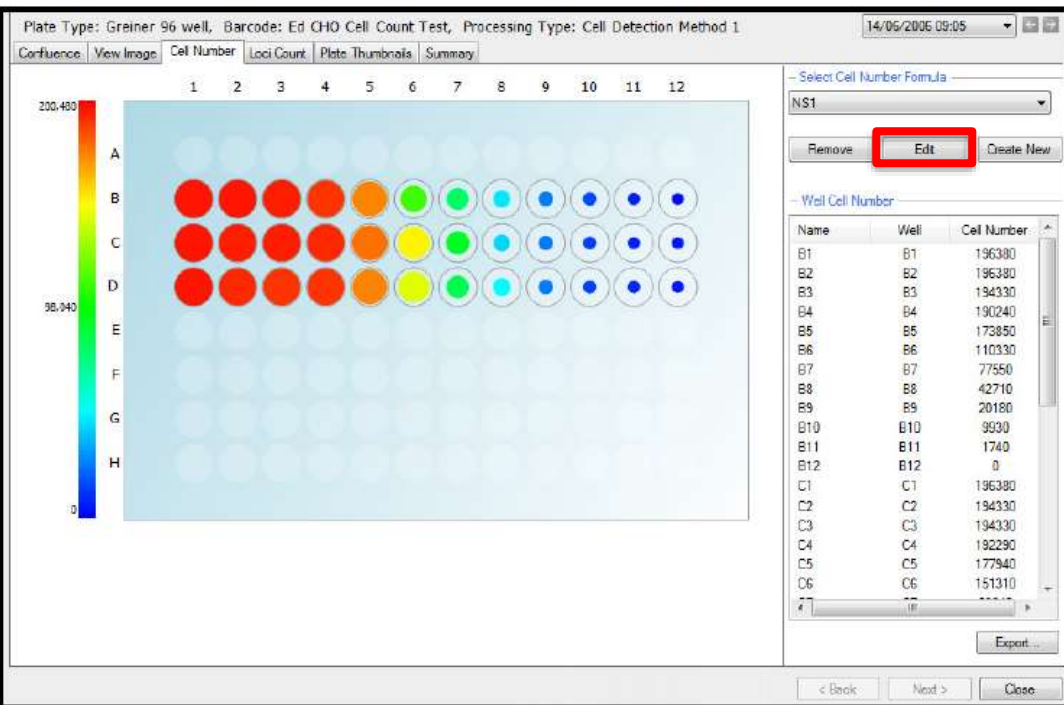
# Cell Number Tab: Edit Cell Number Formula



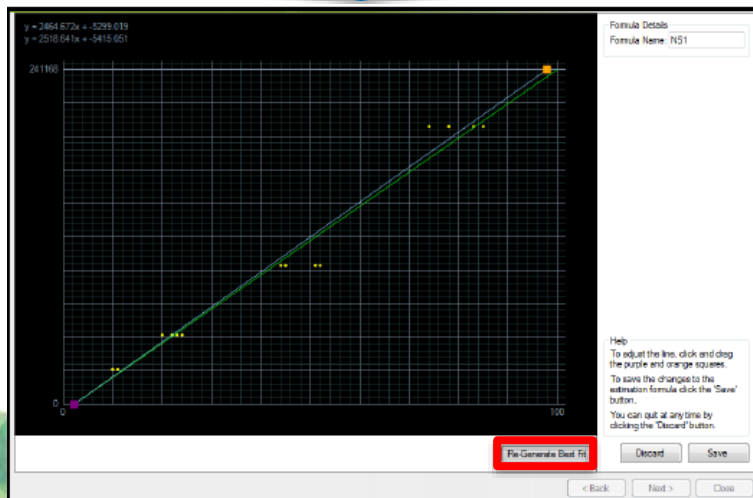
- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will remove the currently selected cell number formula from the drop down menu.
- **Edit:** Clicking this will allow editing to be carried out on the currently selected cell number formula from the drop down menu.
  - A graph of cell number against confluence for the formula is displayed.
  - The handles at each end of the line can be dragged to edit the formula.
  - The formula is displayed at the top left and the edited version is displayed immediately below it.
  - **Discard:** Click this button to abandon the edits and return to the Cell Number tab.
  - **Save:** Click here to save the changes made to the cell number estimation formula.



# Cell Number Tab: Edit Cell Number Formula



- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Remove:** Clicking this button will remove the currently selected cell number formula from the drop down menu.
- **Edit:** Clicking this will allow editing to be carried out on the currently selected cell number formula from the drop down menu.
  - A graph of cell number against confluence for the formula is displayed.
  - The handles at each end of the line can be dragged to edit the formula.
  - The formula is displayed at the top left and the edited version is displayed immediately below it.
  - **Discard:** Click this button to abandon the edits and return to the Cell Number tab.
  - **Save:** Click here to save the changes made to the cell number estimation formula.
  - **Re-Generate Best Fit:** Clicking on this will automatically generate the line of best fit if required.



# Cell Number Tab: Create New Cell Number Formula

Plate Type: Greiner 96 well, Barcode: Ed CHO Cell Count Test, Processing Type: Cell Detection Method 1  
14/05/2006 09:05

Confluence View Image Cell Number Loci Count Plate Thumbnails Summary

200,480  
98,740

1 2 3 4 5 6 7 8 9 10 11 12  
A  
B  
C  
D  
E  
F  
G  
H

Select Cell Number Formula  
NS1

Remove Edit **Create New**

Well Cell Number

Name	Well	Cell Number
B1	B1	196380
B2	B2	196380
B3	B3	194330
B4	B4	190240
B5	B5	173850
B6	B6	110330
B7	B7	77550
B8	B8	42710
B9	B9	20180
B10	B10	9930
B11	B11	1740
B12	B12	0
C1	C1	196380
C2	C2	194330
C3	C3	194330
C4	C4	192290
C5	C5	177940
C6	C6	151310

Export

< Back Next > Close

- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Create New:** Clicking this will enable a new cell number estimation formula to be created in a separate dialog.
  - Before proceeding with this step, ensure that the **confluence results displayed in the Confluence Tab** are those for a standard plate containing known numbers of cells.



Please enter some or all of the cell numbers for the wells below.

Well	Cell Number
B5 (90%)	0
B6 (56%)	0
B7 (40%)	0
B8 (23%)	0
B9 (12%)	0
B10 (7%)	0
C5 (85%)	0
C6 (76%)	0
C7 (60%)	0
C8 (21%)	0
C9 (12%)	0

Formula Details  
Formula Name:

Help  
Enter the cell number for some or all wells in the grid on the left.  
Click the 'Generate' button to create a line of best fit.  
To adjust the line, click and drag the purple and orange squares.  
To save the estimation, enter a name for the formula and then click the 'Save' button.  
You can quit at any time by clicking the 'Discard' button.

Generate

Discard Save

< Back Next > Close

# Cell Number Tab: Create New Cell Number Formula

Please enter some or all of the cell numbers for the wells below.

Well	Cell Number
B5 (16%)	0
B6 (25%)	0
B7 (40%)	0
B8 (23%)	0
B9 (12%)	0
B10 (7%)	0
C5 (89%)	0
C6 (75%)	0
C7 (48%)	0
C8 (21%)	0
C9 (12%)	0

Generate

Formula Details  
Formula Name:

Help  
Enter the cell number for some or all wells in to the grid on the left.  
Click the 'Generate' button to create a line of best fit.  
To adjust the line, click and drag the purple and orange squares.  
To save the estimation, enter a name for the formula and then click the 'Save' button.  
You can quit at any time by clicking the 'Discard' button.

Discard Save

< Back Next > Close

- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Create New:** Clicking this will enable a new cell number estimation formula to be created in a separate dialog.
  - Before proceeding with this step, ensure that the **confluence results displayed in the Confluence Tab** are those for a standard plate containing known numbers of cells.
  - The software will **automatically select up to twelve wells with confluence values ranging between 10 % and 80 %** and display them at the bottom of the graph

# Cell Number Tab: Create New Cell Number Formula

Please enter some or all of the cell numbers for the wells below.

Well	Cell Number
B5 [87%]	0
B6 [25%]	0
B7 [40%]	0
B8 [23%]	0
B9 [12%]	0
B10 [7%]	0
C5 [89%]	0
C6 [75%]	0
C7 [48%]	0
C8 [21%]	0
C9 [12%]	0

Formula Details  
Formula Name:

Help  
Enter the cell number for some or all wells in to the grid on the left.  
Click the 'Generate' button to create a line of best fit.  
To adjust the line, click and drag the purple and orange squares.  
To save the estimation, enter a name for the formula and then click the 'Save' button.  
You can quit at any time by clicking the 'Discard' button.

Generate

< Back Next > Close

- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Create New:** Clicking this will enable a new cell number estimation formula to be created in a separate dialog.
  - Before proceeding with this step, ensure that the **confluence results displayed in the Confluence Tab** are those for a standard plate containing known numbers of cells.
  - The software will **automatically select up to twelve wells with confluence values ranging between 10 % and 80 %** and display them at the bottom of the graph
  - The **name** for the new formula should be entered in the **top right hand corner** and the **cell numbers for each well** should be entered into the corresponding **well number box** to the left of the graph.

# Cell Number Tab: Create New Cell Number Formula

Please enter some or all of the cell numbers for the wells below.

Well	Cell Number
B5 (16%)	0
B6 (25%)	0
B7 (40%)	0
B8 (23%)	0
B9 (12%)	0
B10 (7%)	0
C5 (89%)	0
C6 (75%)	0
C7 (48%)	0
C8 (21%)	0
C9 (12%)	0

Formula Details  
Formula Name:

Help  
Enter the cell number for some or all wells in to the grid on the left.  
Click the 'Generate' button to create a line of best fit.  
To adjust the line, click and drag the purple and orange squares.  
To save the estimation, enter a name for the formula and then click the 'Save' button.  
You can quit at any time by clicking the 'Discard' button.

Discard Save

< Back Next > Close

Generate

- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Create New:** Clicking this will enable a new cell number estimation formula to be created in a separate dialog.
  - Before proceeding with this step, ensure that the **confluence results displayed in the Confluence Tab** are those for a standard plate containing known numbers of cells.
  - The software will **automatically select up to twelve wells with confluence values ranging between 10 % and 80 %** and display them at the bottom of the graph
  - The **name** for the new formula should be entered in the **top right hand corner** and the **cell numbers for each well** should be entered into the corresponding **well number box** to the left of the graph.
  - Enter the **seeded cell numbers** for the **selected wells** in the **table**, then click **Generate** after all relevant information is entered will **create the new formula**.

# Cell Number Tab: Create New Cell Number Formula

Please enter some or all of the cell numbers for the wells below.

Well	Cell Number
B5 (16%)	0
B6 (25%)	0
B7 (40%)	0
B8 (23%)	0
B9 (12%)	0
B10 (7%)	0
C5 (89%)	0
C6 (75%)	0
C7 (48%)	0
C8 (21%)	0
C9 (12%)	0

Formula Details  
Formula Name:

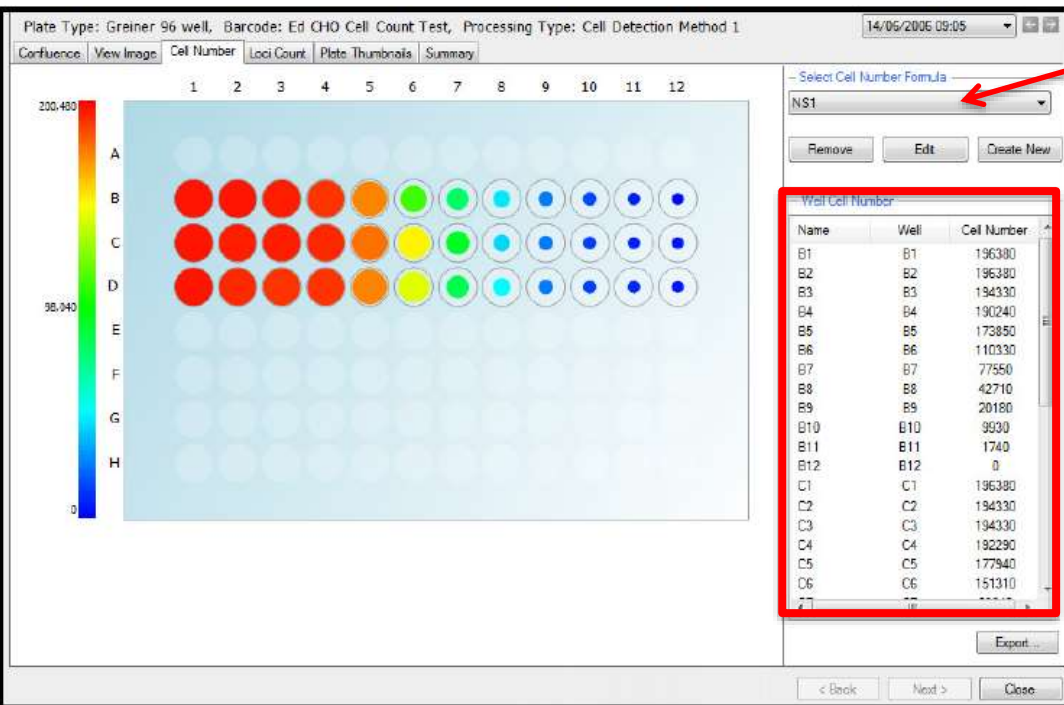
Help  
Enter the cell number for some or all wells in to the grid on the left.  
Click the 'Generate' button to create a line of best fit.  
To adjust the line, click and drag the purple and orange squares.  
To save the estimation, enter a name for the formula and then click the 'Save' button.  
You can quit at any time by clicking the 'Discard' button.

Buttons: Generate, Discard, Save, < Back, Next >, Close

- **Select Cell Number Formula:** This drop down menu will list all the formulas created for estimating the number of cells per well.
- **Create New:** Clicking this will enable a new cell number estimation formula to be created in a separate dialog.
  - Before proceeding with this step, ensure that the **confluence results displayed in the Confluence Tab** are those for a standard plate containing known numbers of cells.
  - The software will **automatically select up to twelve wells with confluence values ranging between 10 % and 80 %** and display them at the bottom of the graph
  - The **name** for the new formula should be entered in the **top right hand corner** and the **cell numbers for each well** should be entered into the corresponding **well number box** to the left of the graph.
  - Enter the **seeded cell numbers** for the **selected wells** in the **table**, then click **Generate** after all relevant information is entered will **create the new formula**.
  - Click **Save** to return to the **Results view**.

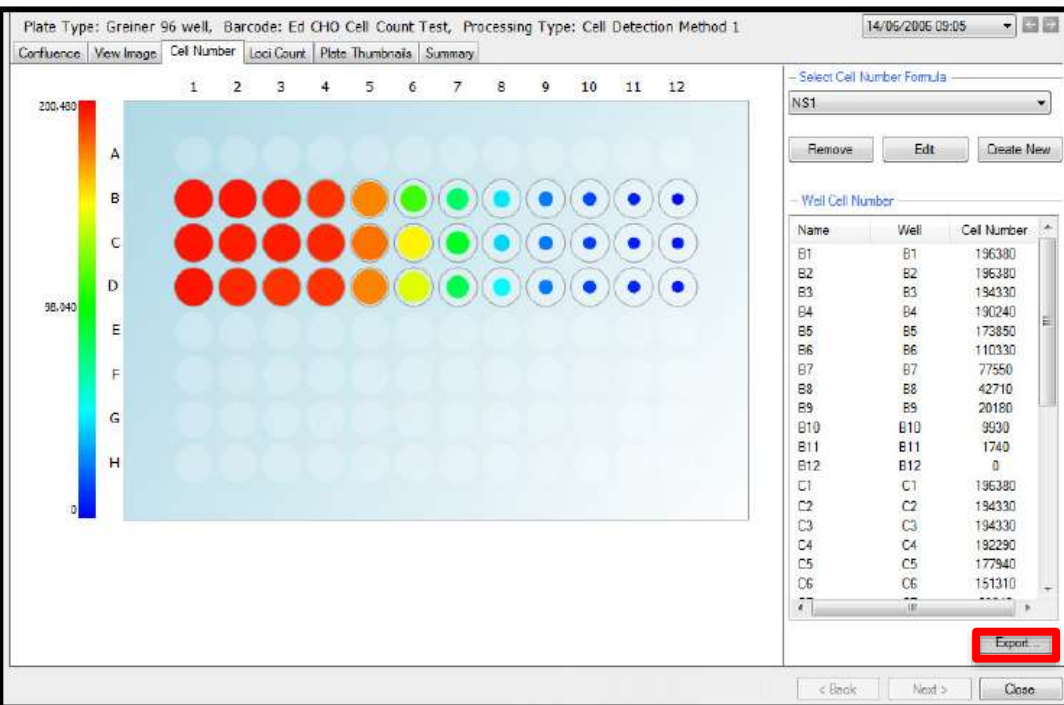


# Cell Number Tab: Well Cell Number Data Field



- **Well Cell Number Field:** A list of **estimated cell numbers** is displayed to the right of the plate overview.
  - **NOTE:** These values are calculated based on the **Cell Number Formula** selected in the dropdown above.

# Cell Number Tab: Well Cell Number Data Field



- **Well Cell Number Field:** A list of **estimated cell numbers** is displayed to the right of the plate overview.
  - **NOTE:** These values are calculated based on the **Cell Number Formula** selected in the dropdown above.
- Click **Export** to launch the Data Export Wizard enable the lists of wells and the corresponding Cell Number to be exported as a **.csv or .xml** file.
  - The **Data Export wizard** will guide the process of exporting the **Cell Number** data.
  - **Confluence** and **Loci Count** data can also be exported at this point

Data Export

Select the type of results that you want to include:

Confluence

Cell Number

– Select Cell Number Formula  
 NS1

Loci Count (May require time to generate data)

– Loci Criteria

Well Diameter: 6.35 mm  
 Minimum Area: 29 µm²  
 Maximum Area: 243144 µm²  
 Histogram Size: 25

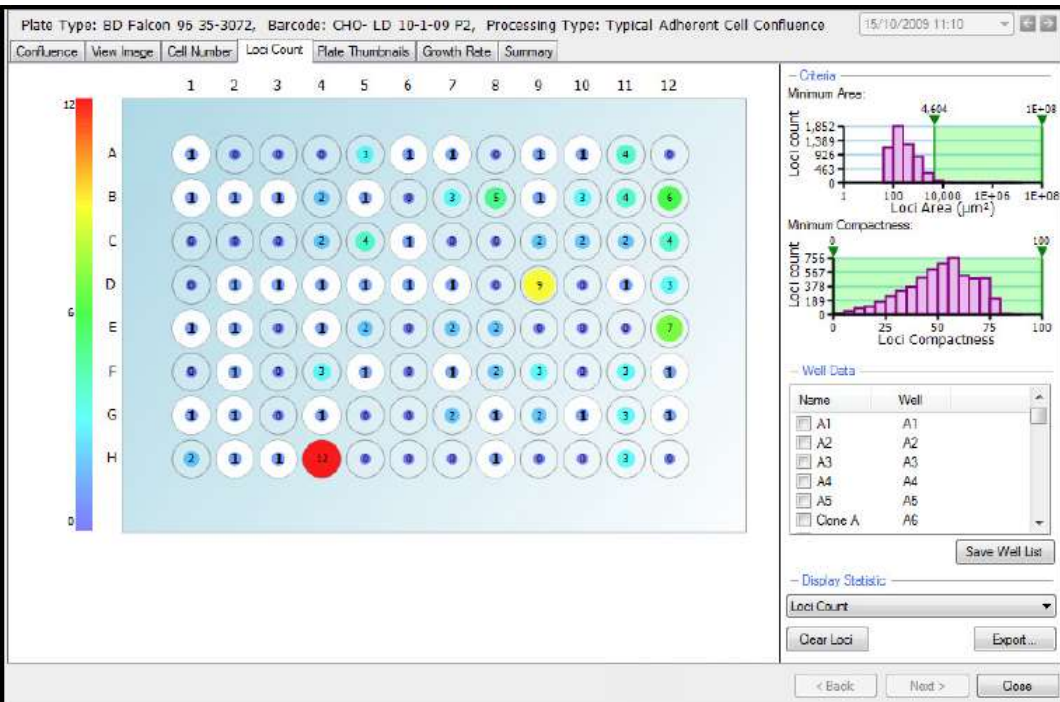
Well Area Compensation: 50  
 Well Area Compensation: 50

Clone area distribution

Clone area and compensation for all columns

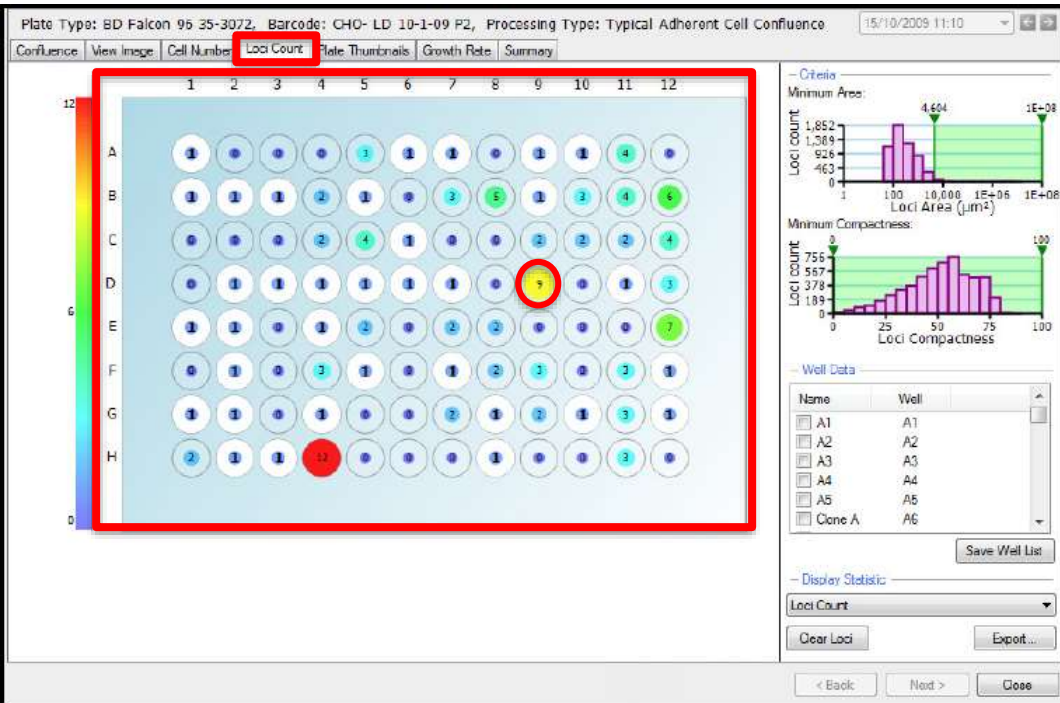
Previous Next Cancel

# Loci Count Tab: General Info



- Generated images can be processed using the **loci count** feature.
  - NOTE:** This is a **licensable feature** of the software – please contact **Molecular Devices Technical Support** if you require this functionality.
- This **detects and counts** the number of **loci of growth**, i.e. **cell colonies** for applications including **monoclonality verification** and **colony forming** assays.
- If a plate is imaged **multiple times** during **colony growth**, the **history** of each **well** with **one identified colony** can be viewed for visual proof that the colony is derived from a **single cell progenitor**.
- For **colony formation** assays, the Loci Count feature can be used to **count the number and size (area) of colonies** in each well.

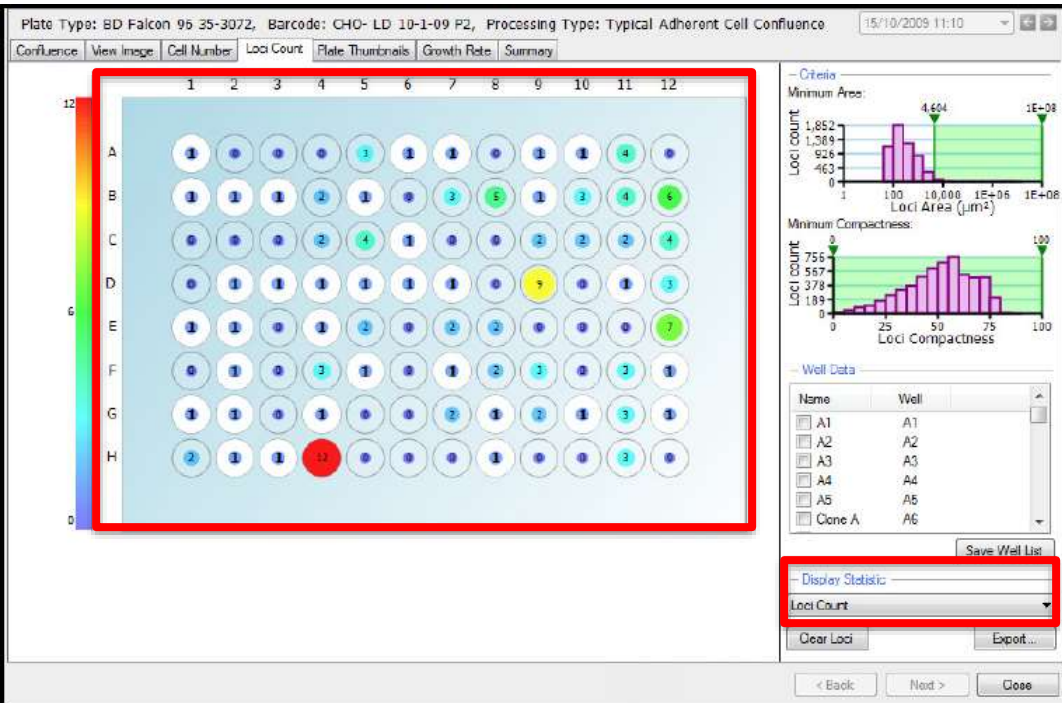
# Loci Count Tab: Plate View



- In the **Loci Count** tab, the **plate view** displays each well with a figure indicating the **number of cell colonies** found in the well.



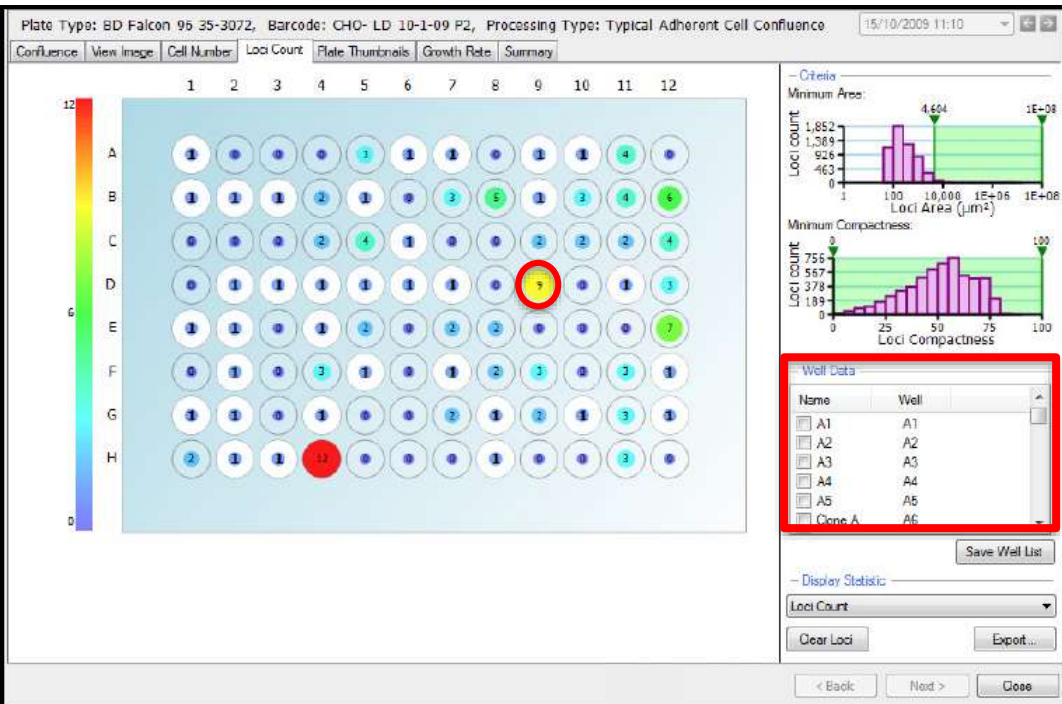
# Loci Count Tab: Plate View



- In the **Loci Count** tab, the **plate view** displays each well with a figure indicating the **number of cell colonies** found in the well.
- The **default plate view** displays the **Loci Count (Under Display Statistic)** however this can be changed to **Mean Loci Area** which will display this value within each of the wells.

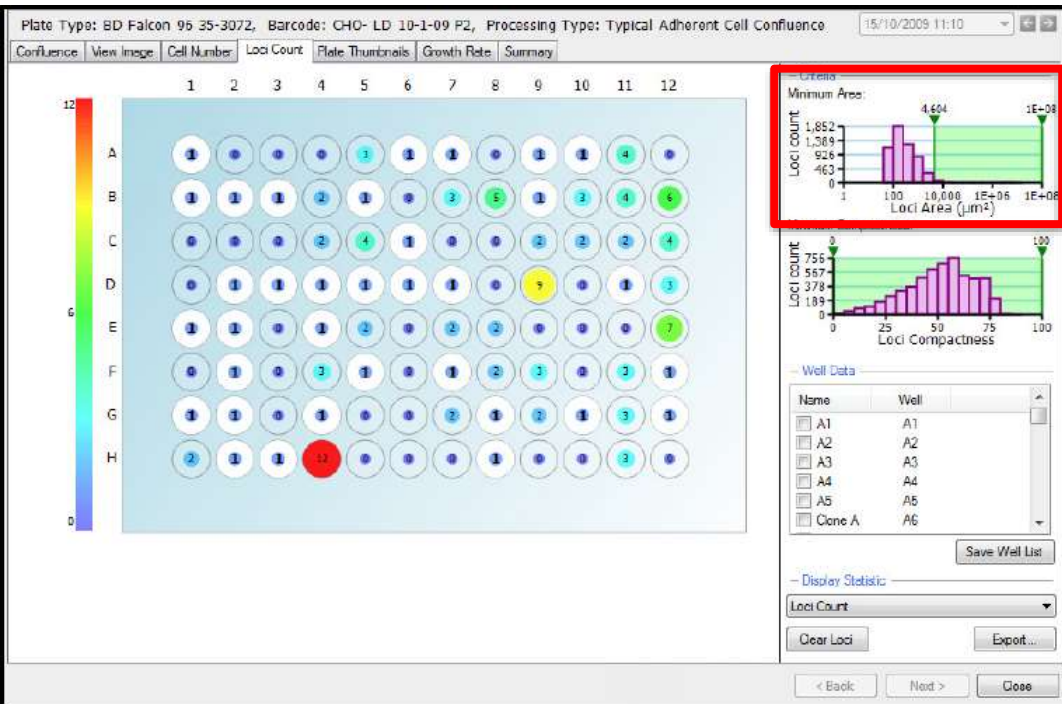


# Loci Count Tab: Well View



- In the **Loci Count** tab, the **plate view** displays each well with a figure indicating the **number of cell colonies** found in the well.
- The **default plate view** displays the **Loci Count (Under Display Statistic)** however this can be changed to **Mean Loci Area** which will display this value within each of the wells.
- To display the **Well View** for a well, **click on the desired well in Plate View** or in the **Well Data list**.

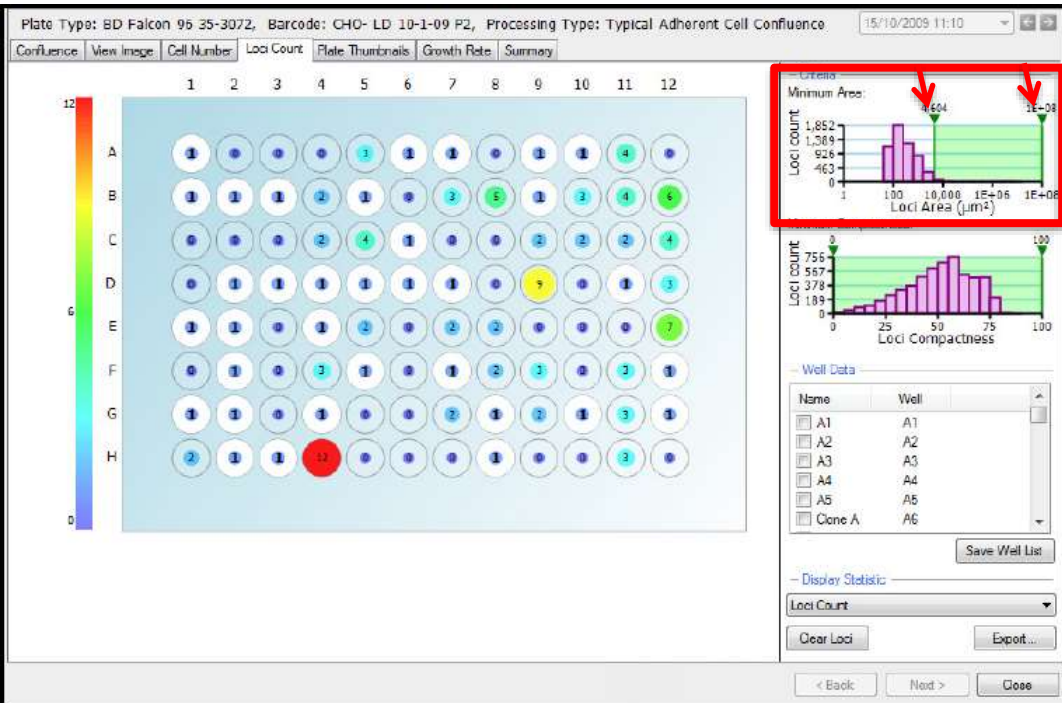
# Loci Count Tab: Criteria



- **CRITERIA: Minimum Area**
  - The loci count (frequency) is plotted against the loci area ( $\mu\text{m}^2$ ) in a log scale.



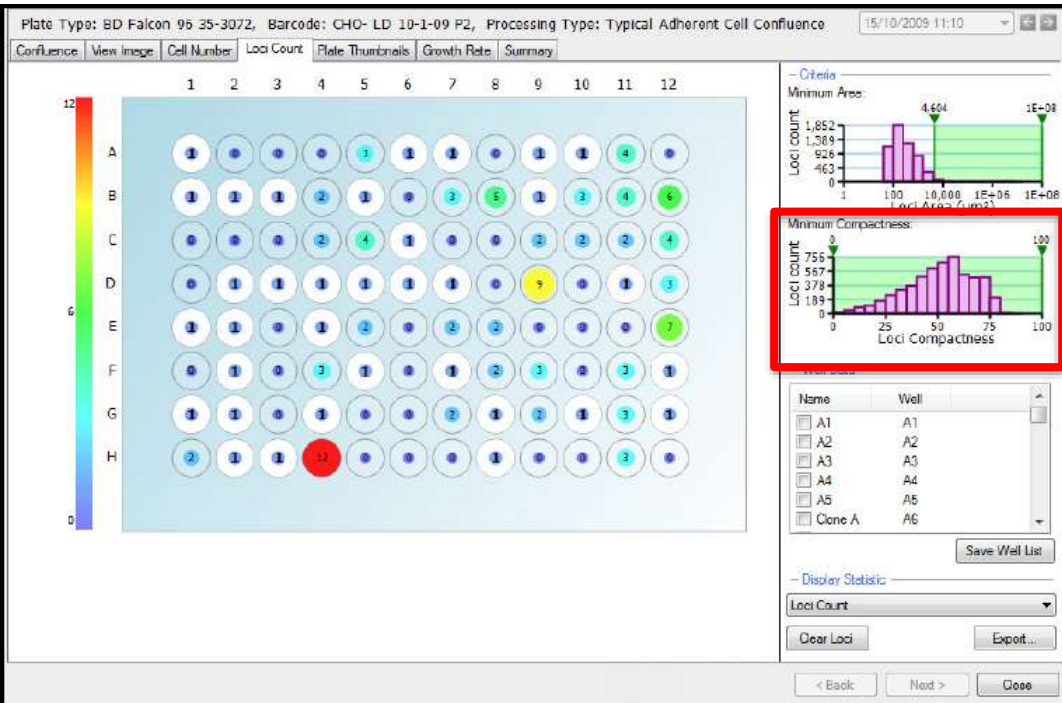
# Loci Count Tab: Criteria



- **CRITERIA: Minimum Area**
  - The loci count (frequency) is plotted against the loci area ( $\mu\text{m}^2$ ) in a log scale.
  - The bar chart has two, **lower and upper, gates** that can be moved accordingly to **eliminate unwanted objects/debris** within the well that artificially inflate the number of loci.

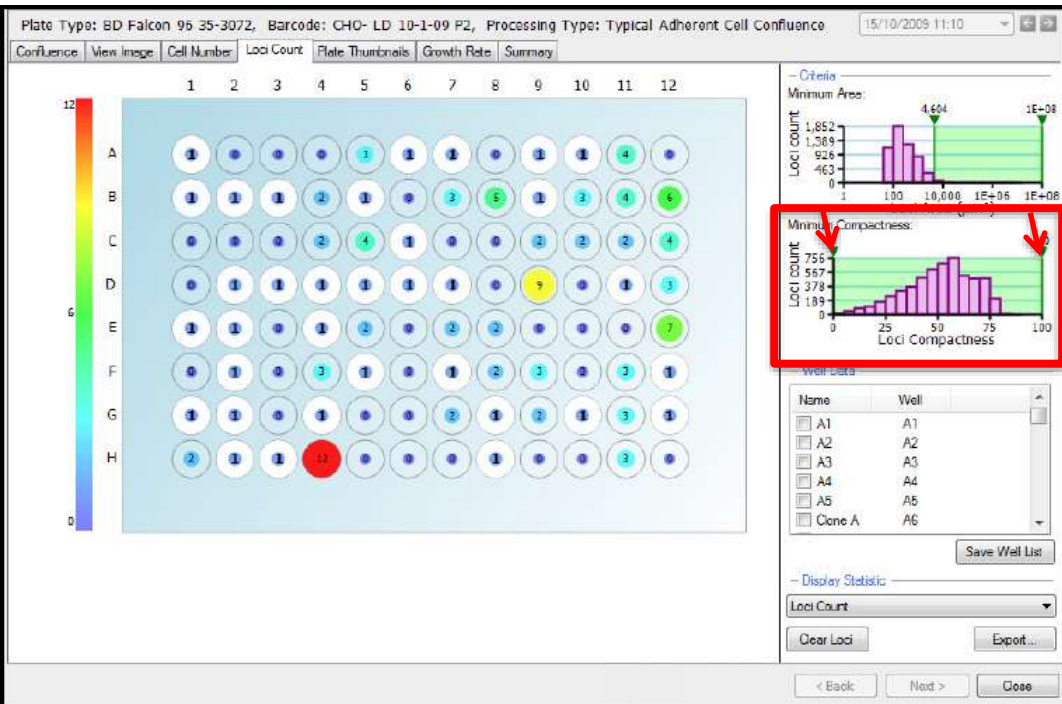


# Loci Count Tab: Criteria



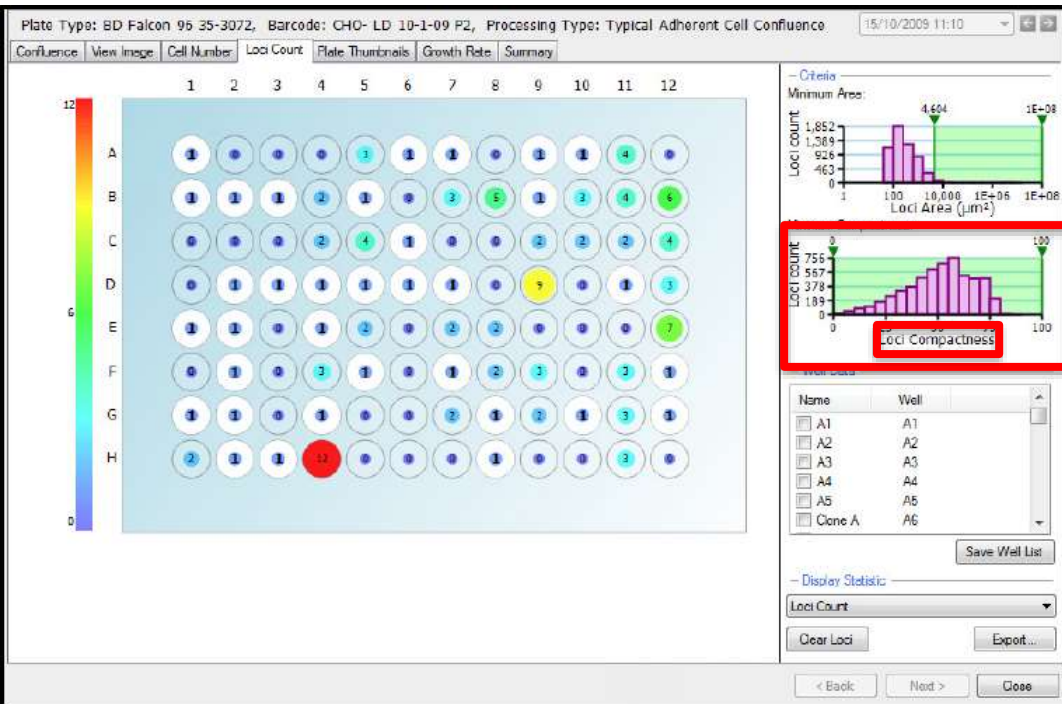
- **CRITERIA: Minimum Area**
  - The **loci count (frequency)** is plotted against the **loci area (µm<sup>2</sup>)** in a **log scale**.
  - The **bar chart** has two, **lower and upper, gates** that can be moved accordingly to **eliminate unwanted objects/debris** within the well that artificially inflate the number of loci.
- **CRITERIA: Minimum Compactness**
  - The **loci count (frequency)** is plotted against the **loci compactness**.

# Loci Count Tab: Criteria



- **CRITERIA: Minimum Area**
  - The loci count (frequency) is plotted against the loci area ( $\mu\text{m}^2$ ) in a log scale.
  - The bar chart has two, lower and upper, gates that can be moved accordingly to eliminate unwanted objects/debris within the well that artificially inflate the number of loci.
- **CRITERIA: Minimum Compactness**
  - The loci count (frequency) is plotted against the loci compactness.
  - The bar chart has two, lower and upper, gates that can be moved accordingly to eliminate irregularly shaped objects from the loci count.

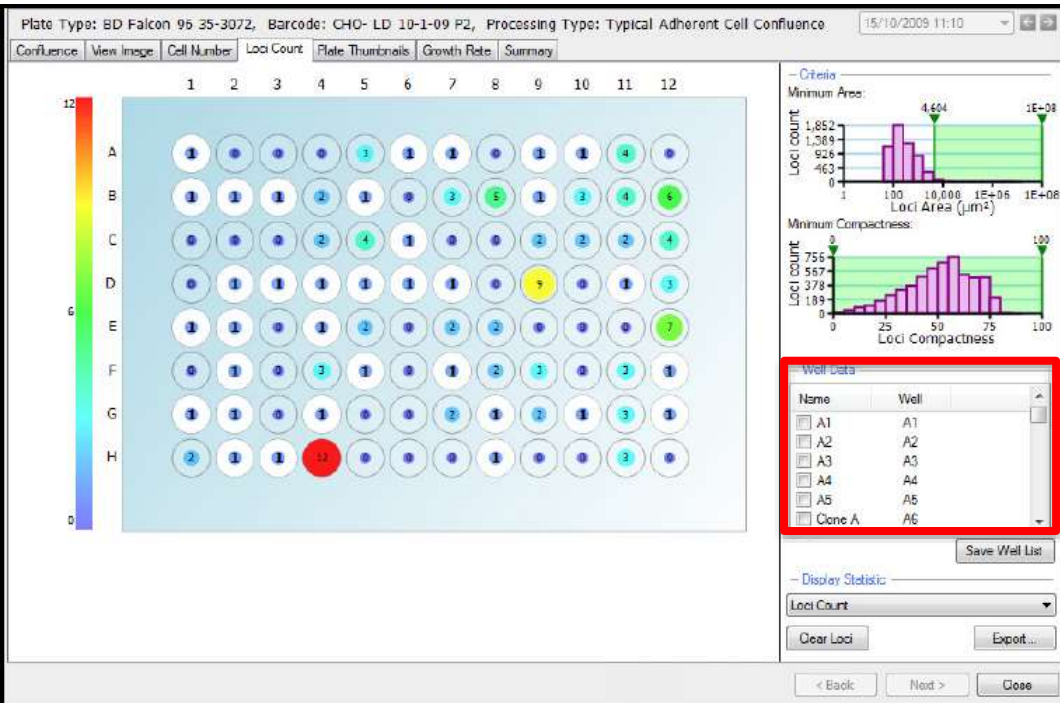
# Loci Count Tab: Criteria



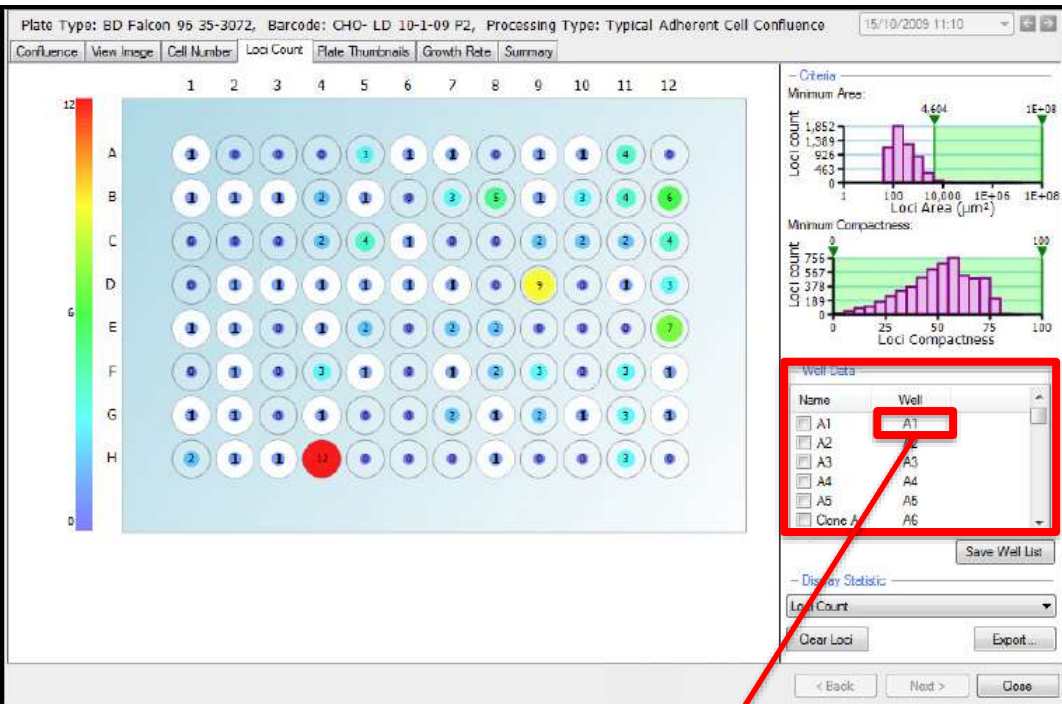
- **CRITERIA: Minimum Area**
  - The loci count (frequency) is plotted against the loci area ( $\mu\text{m}^2$ ) in a log scale.
  - The bar chart has two, lower and upper, gates that can be moved accordingly to eliminate unwanted objects/debris within the well that artificially inflate the number of loci.
- **CRITERIA: Minimum Compactness**
  - The loci count (frequency) is plotted against the loci compactness.
  - The bar chart has two, lower and upper, gates that can be moved accordingly to eliminate irregularly shaped objects from the loci count.
  - **Loci Compactness** is the relation between the area and the perimeter, expressed as a ratio of the actual area and that of a perfect circle with the same perimeter.

# Loci Count Tab: Well Data

- **WELL DATA:** This section lists the wells.



# Loci Count Tab: Well Data



- WELL DATA: This section lists the wells.
- The well name can be changed if required by clicking twice on the well name and typing in the desired name.
  - *NOTE: This feature is utilized for tagging of monoclonal colonies in the **Monoclonality Assay** workflow.*

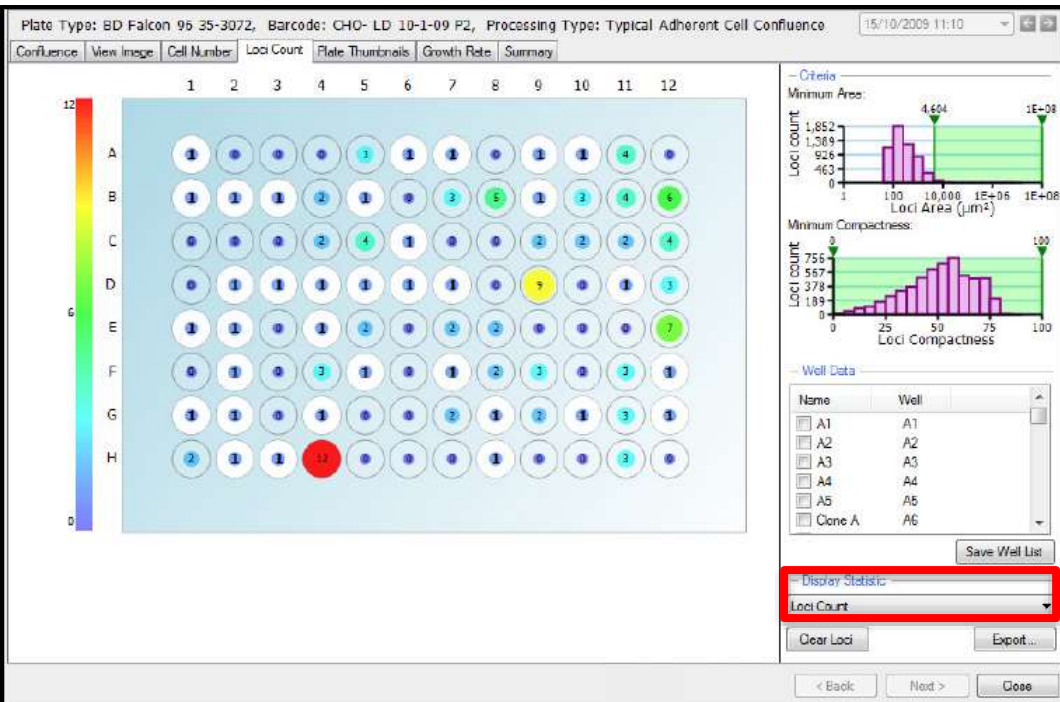
A close-up of the 'Well Data' table. The table has two columns: 'Name' and 'Well'. The first row is checked and highlighted in blue, showing 'Clone A' in the 'Name' column and 'A1' in the 'Well' column. The second row shows 'A2' in both columns.

Name	Well
<input checked="" type="checkbox"/> Clone A	A1
<input type="checkbox"/> A2	A2

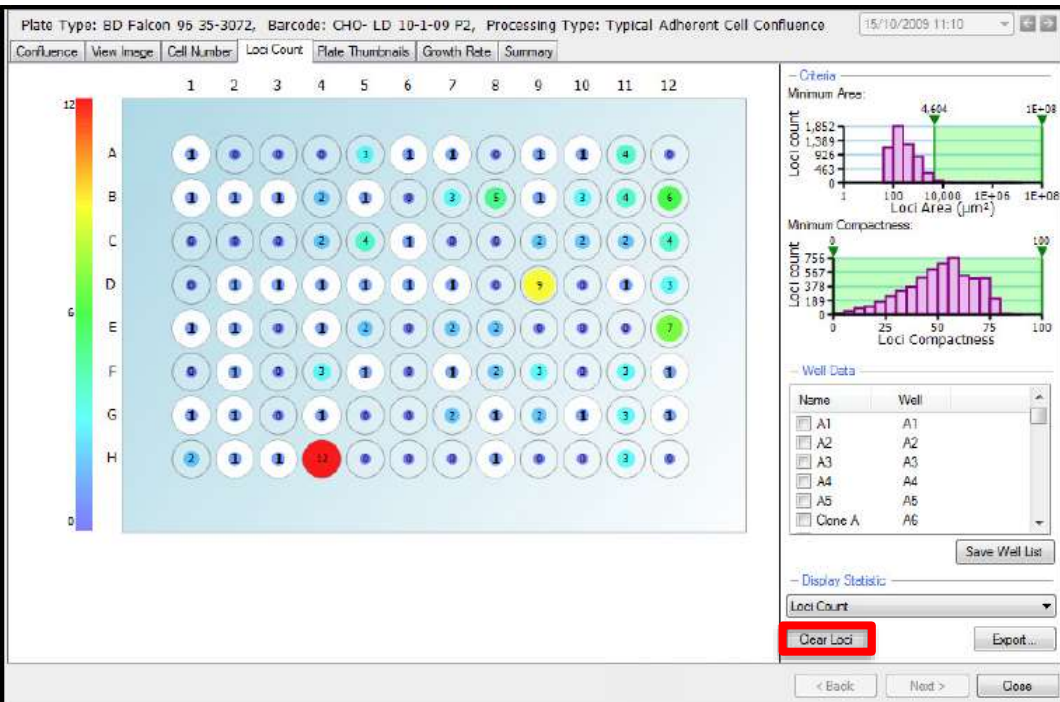


# Loci Count Tab: Display Statistic

- **DISPLAY STATISTIC:** The drop down menu will display either the 'Loci Count' or the 'Mean Loci Area' on the overview.

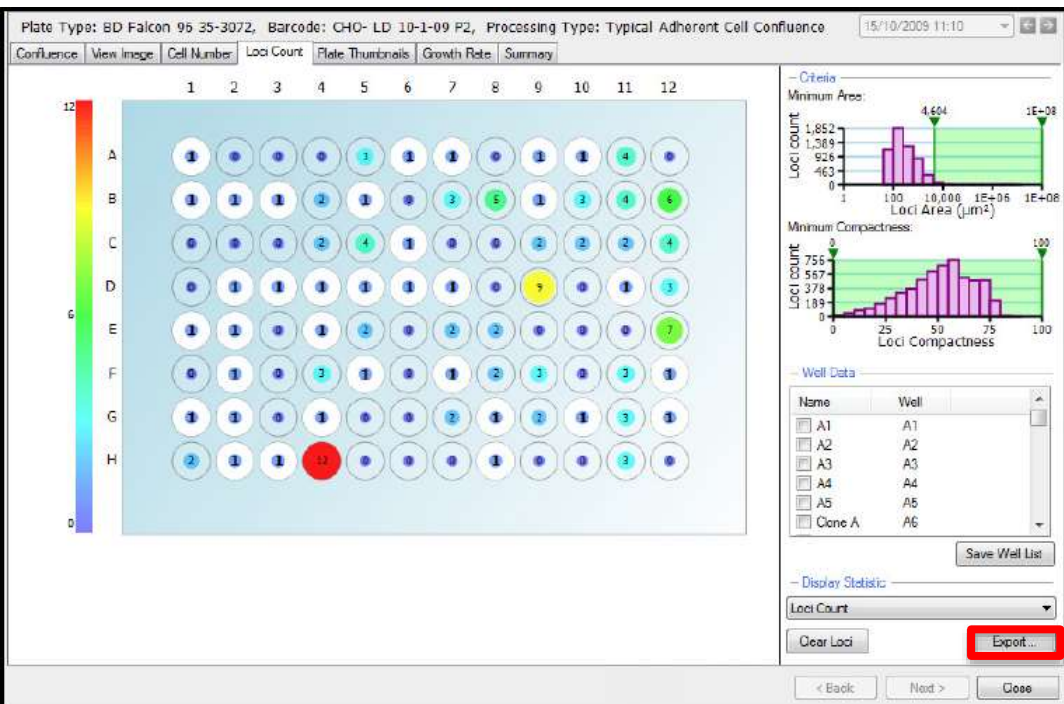


# Loci Count Tab: Clear Loci

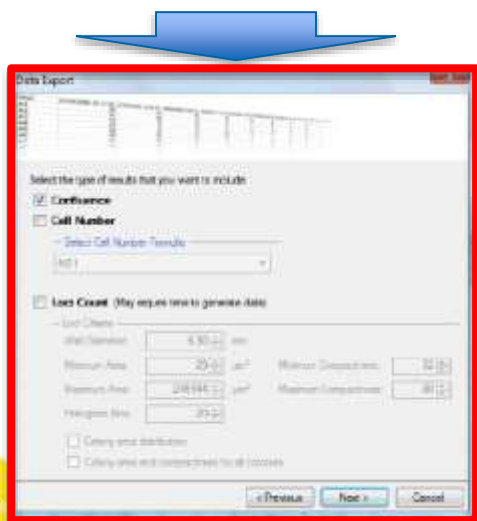


- The 'Clear Loci' button allows the loci processing to be cleared.
- When selected, a **prompt** will appear warning that all the **current loci data** will be **lost** if continuing.

# Loci Count Tab: Export

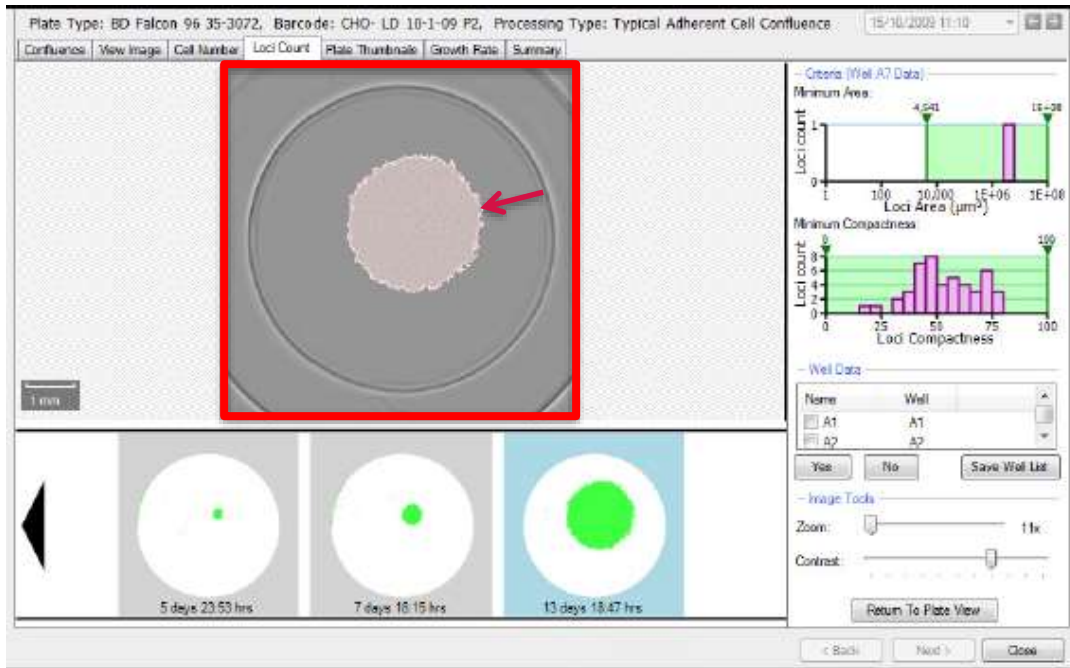


- **Export:** Launches a **Data Export** wizard that enables export of the **list of wells** and the corresponding **confluence** as a **.csv** or **.xml** file.
  - **Cell Number** and **Loci Count** (if feature is **enabled**) data can also be exported at this point.



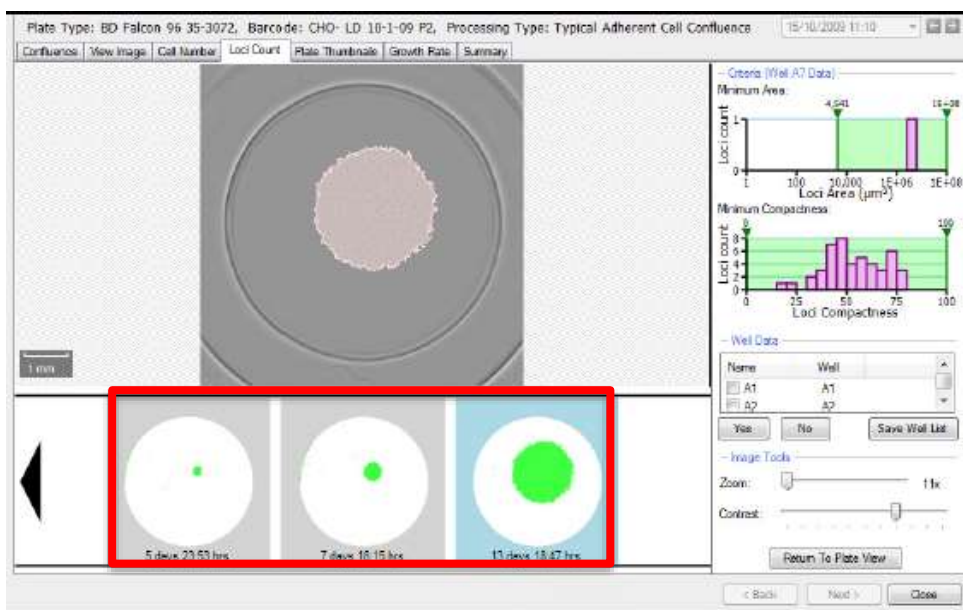


# Loci Count Tab: Well View



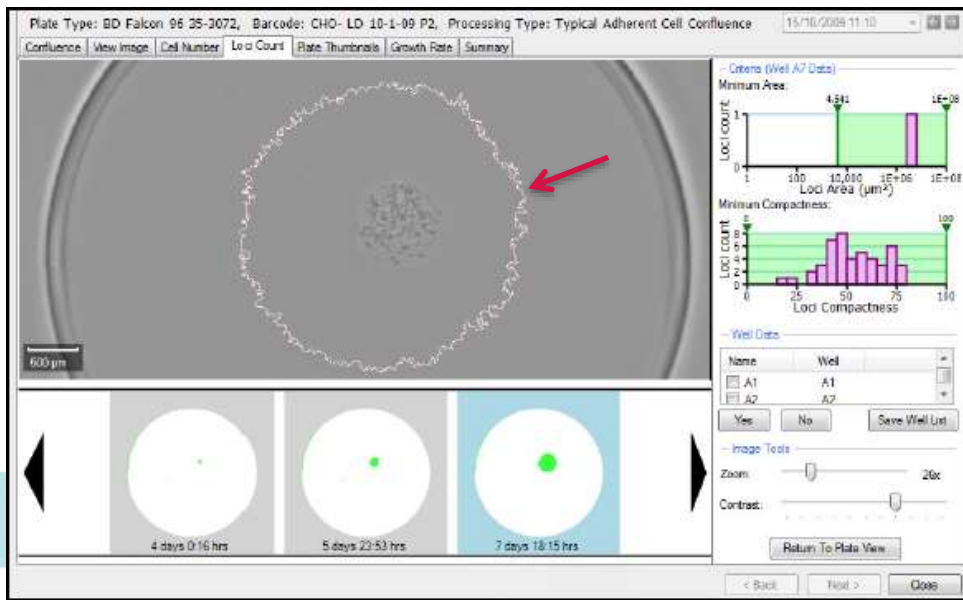
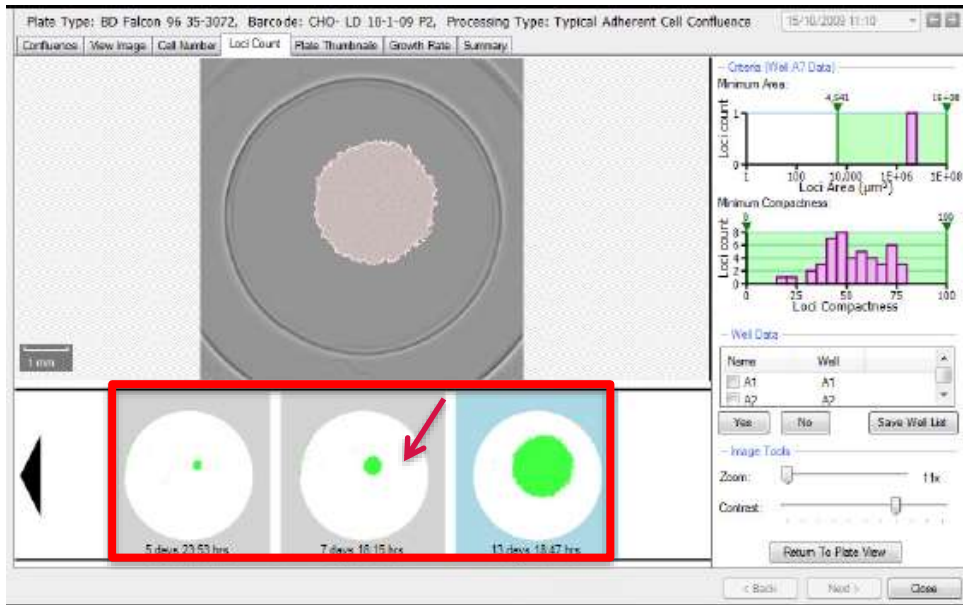
- To display the **Well View** for a well, click on the desired well in **Plate View** or in the **Well Data** list.
- You will now see the **image** for the selected well with an **overlay** over areas of growth detected according to the **Minimum Area** and **Minimum Compactness** criteria that were set on the graphs.

# Loci Count Tab: Well View – Filmstrips



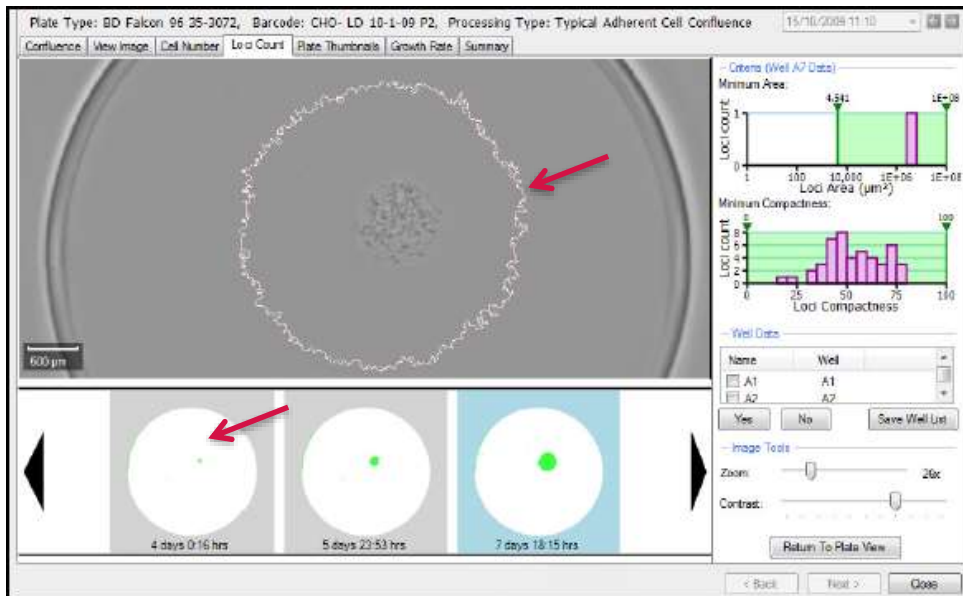
- To display the **Well View** for a well, **click on the desired well in Plate View or in the Well Data list.**
- You will now see the **image** for the selected well with an **overlay** over areas of growth **detected** according to the **Minimum Area** and **Minimum Compactness** criteria that were set on the graphs.
- **Filmstrip View:** If the **microplate** has been **imaged at several time points** a **film strip of schematics** of the **well** at these time points is displayed across the bottom of the screen with detected **loci** colored in **green**.

# Loci Count Tab: Well View – Filmstrips



- To display the **Well View** for a well, click on the desired well in **Plate View** or in the **Well Data** list.
- You will now see the **image** for the selected well with an **overlay** over areas of growth detected according to the **Minimum Area** and **Minimum Compactness** criteria that were set on the graphs.
- Filmstrip View:** If the microplate has been imaged at several time points a film strip of **schematics** of the **well** at these time points is displayed across the bottom of the screen with detected **loci** colored in **green**.
- Click on any of the **schematics** in the **Filmstrip View** to display the **well image** at that **time point** with the **loci** from the **most recently captured image** outlined.

# Loci Count Tab: Well View - Filmstrips



**TIP:** To export the **Image Sequence**, right-click on the sequence - this can then be saved as a **.bmp**, **.jpg** or **.png** file. The **file** will include the **confluence percentage** and **time/day** that the images were acquired.

- To display the **Well View** for a well, click on the desired well in **Plate View** or in the **Well Data** list.
- You will now see the **image** for the selected well with an **overlay** over areas of growth detected according to the **Minimum Area** and **Minimum Compactness** criteria that were set on the graphs.
- **Filmstrip View:** If the microplate has been imaged at several time points a film strip of **schematics** of the **well** at these time points is displayed across the bottom of the screen with detected **loci** colored in **green**.
- Click on any of the **schematics** in the **Filmstrip View** to display the **well image** at that **time point** with the **loci** from the **most recently captured image** outlined.
- This provides a means of **checking** if a **colony** has resulted from a **single cell** or from more than one cell. For an example of analyzing **monoclonality data** see the **dedicated training module**.

# Loci Count Tab: Well View – Marking Monoclonals

- **Marking Monoclonals:** It is possible to click on a well in the **Well Data** list to go to its corresponding **Well View** and check if the colony is monoclonal.

The screenshot displays the Loci Count software interface. At the top, it shows metadata: Plate Type: BD Falcon 96 35-2072, Barcode: CHO- LD 10-1-09 P2, Processing Type: Typical Adherent Cell Confluence, and Date: 15/10/2009 11:10. Below this are navigation tabs: Confluence, View Image, Cell Number, Loci Count, Plate Thumbnails, Growth Rate, and Summary. The main area is divided into several sections:

- Top Left:** A large grayscale image of a well with a white outline of a colony. A 600 µm scale bar is visible in the bottom left corner.
- Top Right:** Two histograms. The first is titled 'Criteria (Well A2 Data)' and shows 'Loci count' vs 'Loci Area (µm²)'. The second shows 'Loci count' vs 'Loci Compactness'.
- Bottom Left:** A sequence of three circular images showing the colony's growth over time: '4 days 0:16 hrs', '5 days 23:53 hrs', and '7 days 18:15 hrs'. The 7-day image is highlighted with a blue border.
- Bottom Right:** A 'Well Data' table with a red border around it. It contains two rows: A1 and A2, each with a checkbox and a 'Well' column. Below the table are 'Yes', 'No', and 'Save Well List' buttons. Further down are 'Image Tools' including 'Zoom' (set to 20x) and 'Contrast' sliders, and a 'Return To Plate View' button.

# Loci Count Tab: Well View – Marking Monoclonals

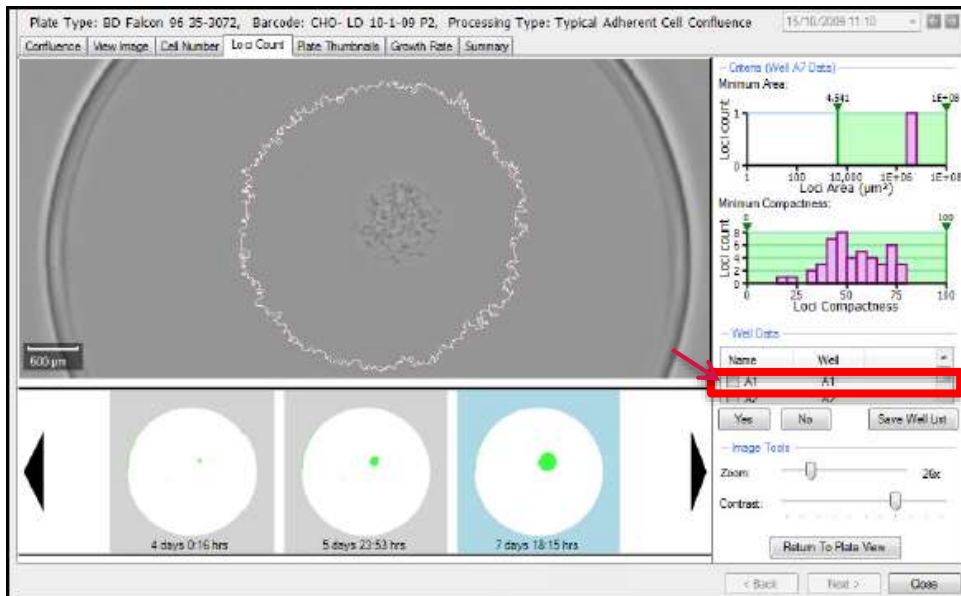
- **Marking Monoclonals:** It is possible to click on a well in the **Well Data** list to go to its corresponding **Well View** and check if the colony is monoclonal.
- There are **three** ways to move through the **well list** and **mark wells as monoclonal**:
  1. **Click the Yes button to mark a well as monoclonal and scroll to the next well image.** Click **No** to **scroll to the next well without marking the well as monoclonal.**

The screenshot displays the Loci Count software interface. At the top, it shows metadata: Plate Type: BD Falcon 96 35-2072, Barcode: CHO- LD 10-1-09 P2, Processing Type: Typical Adherent Cell Confluence, and Date: 15/10/2009 11:10. Below this are navigation tabs: Confluence, View Image, Cell Number, Loci Count (selected), Plate Thumbnails, Growth Rate, and Summary.

The main area is divided into several sections:

- Top Left:** A large grayscale image of a well with a white outline of a colony. A 600 µm scale bar is visible in the bottom left corner.
- Top Right:** Two histograms. The first is titled "Criteria (Well A2 Data)" and shows "Loci count" vs "Loci Area (µm²)" with a minimum area of 4.914. The second shows "Loci count" vs "Loci Compactness" with a minimum compactness of 100.
- Bottom Left:** A row of four circular thumbnails representing wells at different time points: "4 days 0:16 hrs", "5 days 23:53 hrs", "7 days 18:15 hrs" (highlighted in blue), and an unlabeled one.
- Bottom Right:** A "Well Data" table with columns "Name" and "Well". It lists wells A1 and A2. Below the table are "Yes" and "No" buttons (the "Yes" button is highlighted with a red box), a "Save Well List" button, and sliders for "Image Tools", "Zoom" (set to 20x), and "Contrast". A "Return To Plate View" button is also present.

# Loci Count Tab: Well View – Marking Monoclonals



- **Marking Monoclonals:** It is possible to click on a well in the **Well Data** list to go to its corresponding **Well View** and check if the colony is monoclonal.
- There are **three** ways to move through the **well list** and **mark wells as monoclonal**:
  1. Click the **Yes** button to mark a well as **monoclonal** and **scroll** to the next well image. Click **No** to **scroll** to the next well without marking the well as monoclonal.
  2. Click on a **well** to **view** its **image** and click on the **check box** to mark it as **monoclonal**.

# Loci Count Tab: Well View – Marking Monoclonals

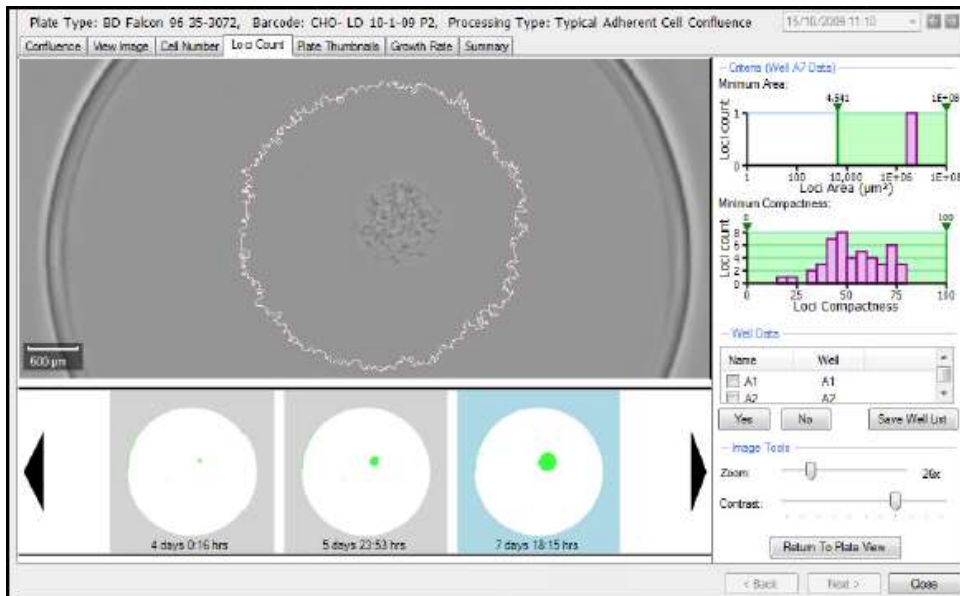
- **Marking Monoclonals:** It is possible to click on a well in the **Well Data** list to go to its corresponding **Well View** and check if the colony is monoclonal.

- There are **three** ways to move through the **well list** and **mark wells as monoclonal**:

1. Click the **Yes** button to mark a well as **monoclonal** and **scroll** to the next well image. Click **No** to **scroll** to the next well without marking the well as monoclonal.

2. Click on a **well** to view its **image** and click on the **check box** to mark it as monoclonal.

3. Use the **keyboard up/down arrow keys** to **scroll** through the wells and the **spacebar** to mark the wells as monoclonal.



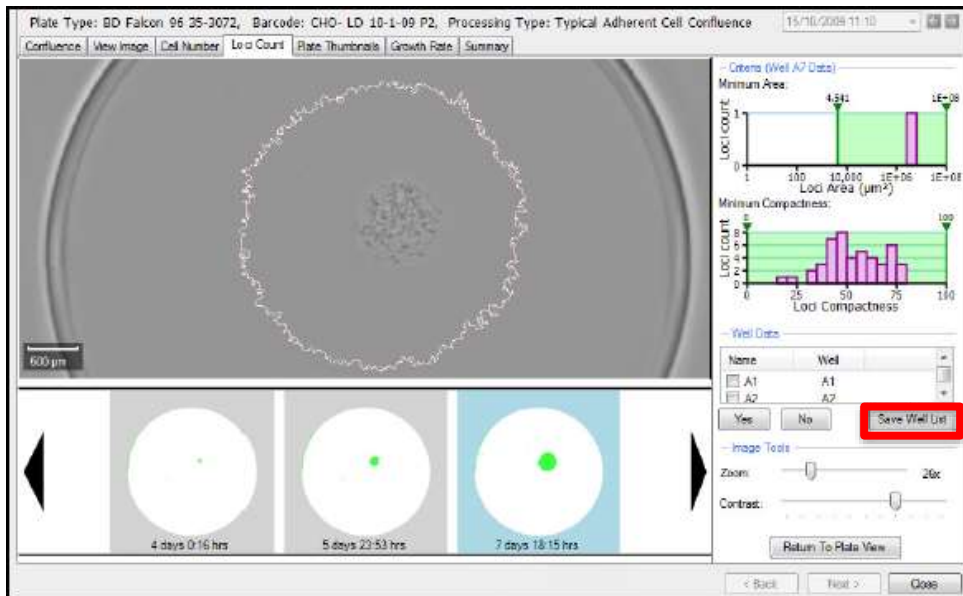
**Up/Down Arrow Keys =  
Scroll through wells**



**Space Bar = Mark selected well as monoclonal**



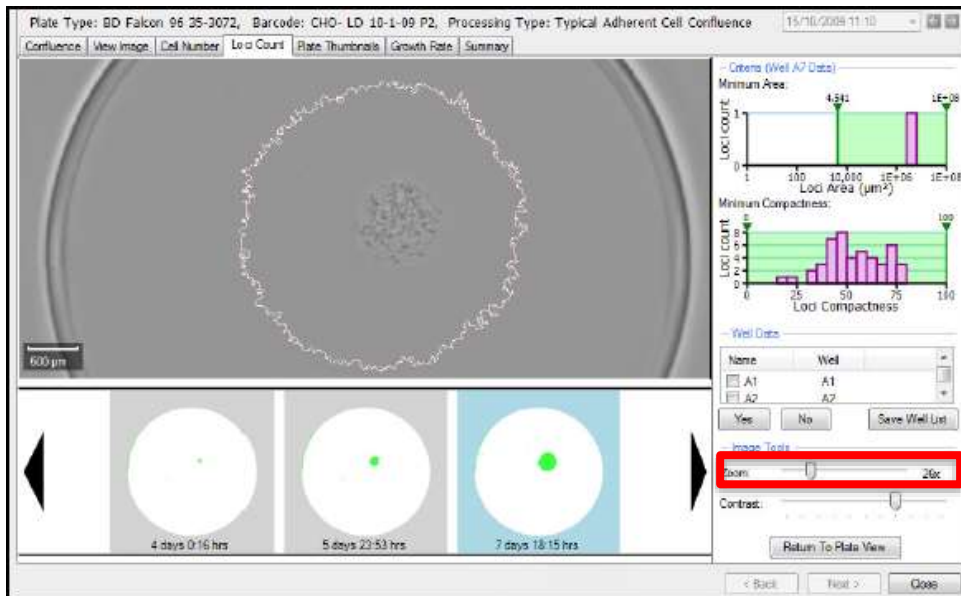
# Loci Count Tab: Well View – Marking Monoclonals



- **Marking Monoclonals:** It is possible to click on a well in the **Well Data** list to go to its corresponding **Well View** and check if the colony is monoclonal.
- There are **three** ways to move through the **well list** and **mark wells as monoclonal**:
  1. Click the **Yes** button to mark a well as **monoclonal** and **scroll** to the next well image. Click **No** to **scroll** to the next well without marking the well as monoclonal.
  2. Click on a **well** to view its **image** and click on the **check box** to mark it as monoclonal.
  3. Use the **keyboard up/down arrow keys** to **scroll** through the wells and the **spacebar** to mark the wells as monoclonal.
- **Save Well List:** The **selected wells** in the **list** can be **saved** by clicking on the **Save Well List** button. This **file** can be saved as a **.csv** file. The **file** will display the **plate barcode**, **run date**, **operator** and the **selected wells**.

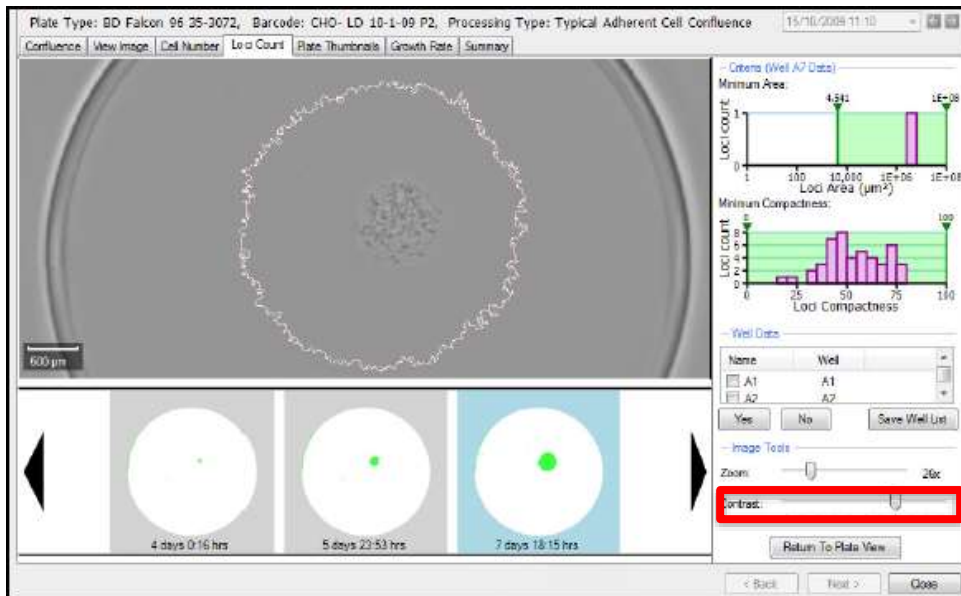
# Loci Count Tab: Well View – Image Tools

- **Zoom:** This slider can be moved either **left** or **right** to **zoom out** or **in** respectively.
  - The **lowest** magnification of the image is **18x** and the **highest** is **144x**.
  - When the **figure** turns **red** the system is **zooming digitally** and which may cause some **pixilation** of the image.
  - When **zoomed into** an image, the **zoomed area** will be displayed on the **image thumbnail** to the right.



**TIP:** You can also use your **mouse scroll wheel** to **zoom** on the **image**. Simply **navigate** to the **image** with your **cursor** and move the mouse scroll wheel **forward** to **zoom in**, in **reverse** to **zoom out**.

# Loci Count Tab: Well View – Image Tools



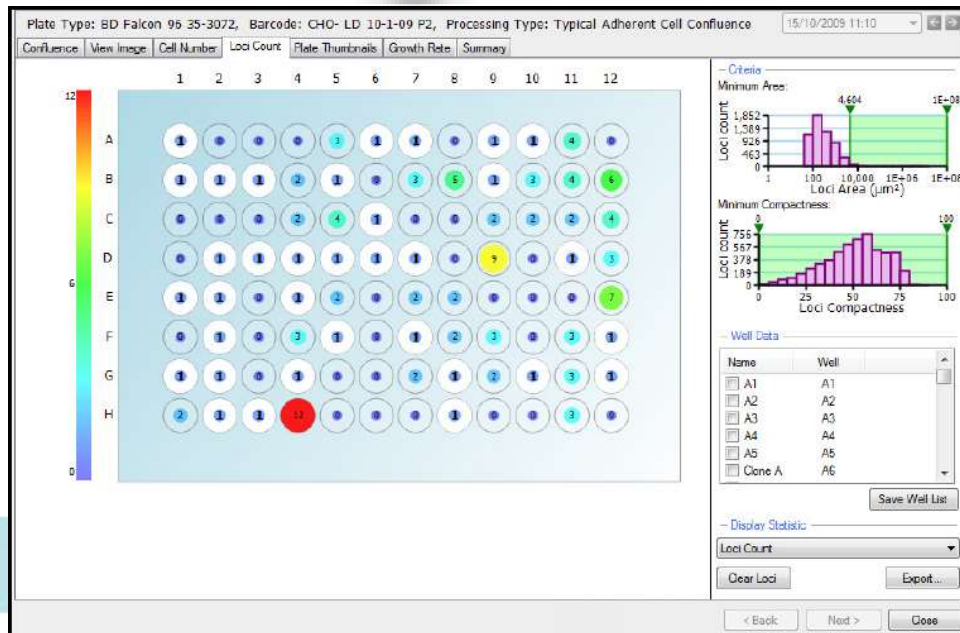
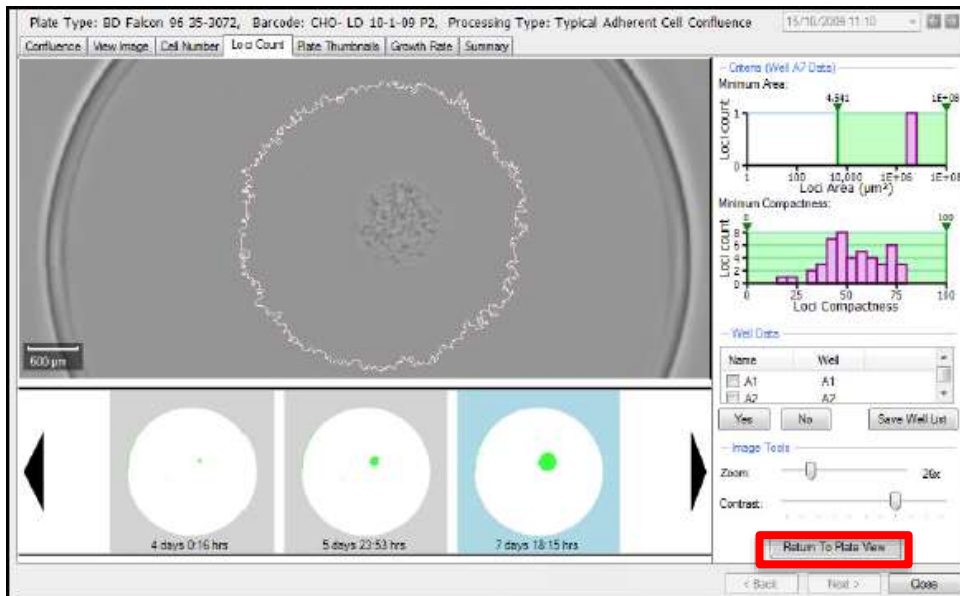
- **Zoom:** This slider can be moved either left or right to zoom out or in respectively.
  - The lowest magnification of the image is 18x and the highest is 144x.
  - When the figure turns red the system is zooming digitally and which may cause some pixilation of the image.
  - When zoomed into an image, the zoomed area will be displayed on the image thumbnail to the right.
- **Contrast:** The displayed contrast of the image can be altered by moving this slider to the left or right.

*Note: Changing the display contrast does not alter the image itself.*

# Loci Count Tab: Well View – Image Tools

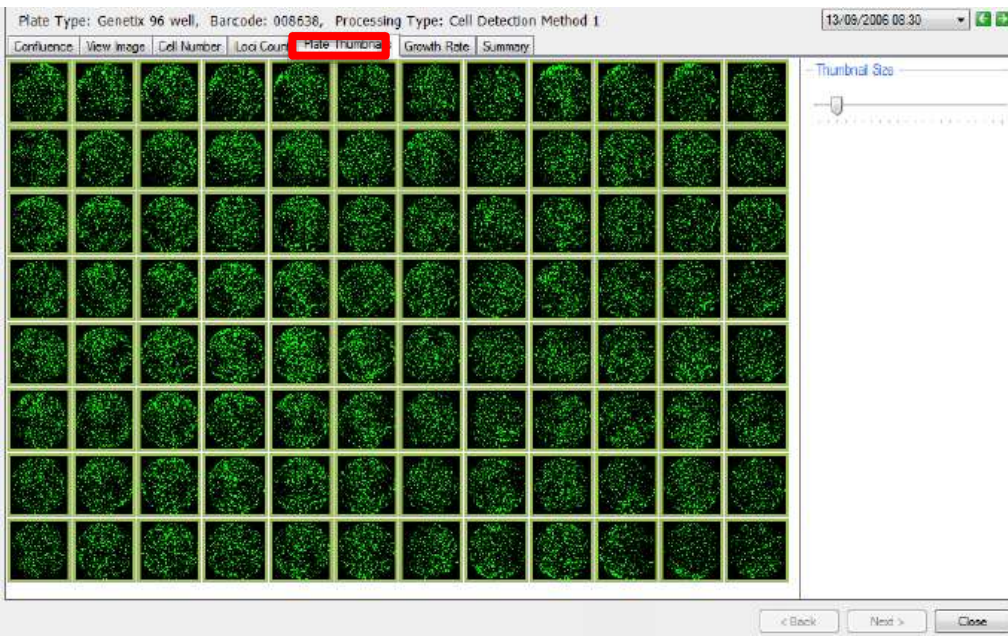
- **Zoom:** This slider can be moved either left or right to zoom out or in respectively.
  - The lowest magnification of the image is 18x and the highest is 144x.
  - When the figure turns red the system is zooming digitally and which may cause some pixilation of the image.
  - When zoomed into an image, the zoomed area will be displayed on the image thumbnail to the right.
- **Contrast:** The displayed contrast of the image can be altered by moving this slider to the left or right.
 

*Note: Changing the display contrast does not alter the image itself.*
- **Return to Plate View:** Clicking this button will return the screen to the Plate View within the Loci Count Tab.



use in diagnostic procedures.

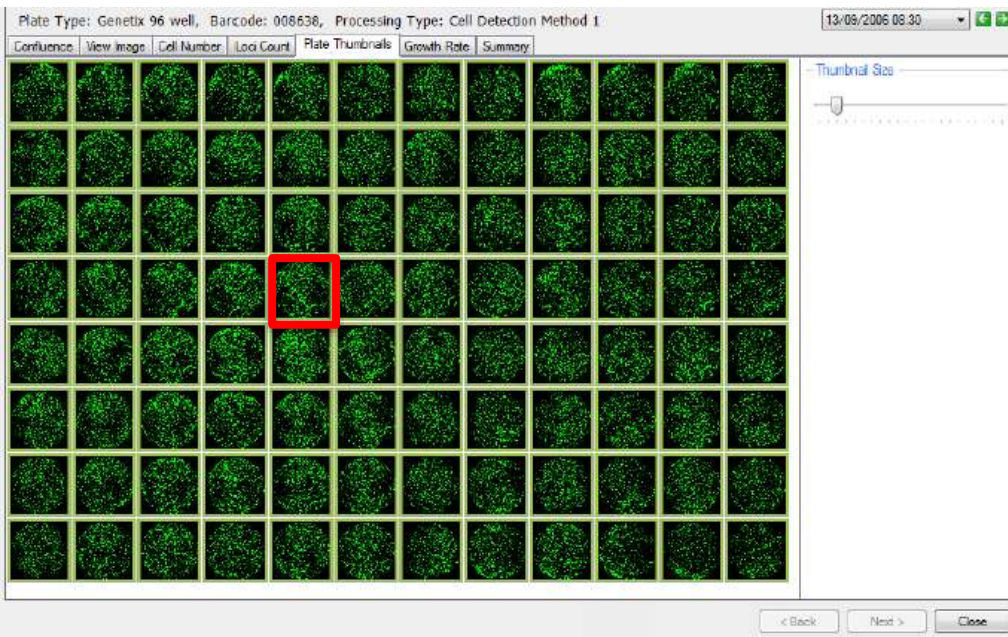
# Plate Thumbnails Tab - Overview



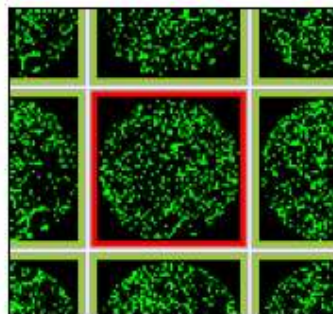
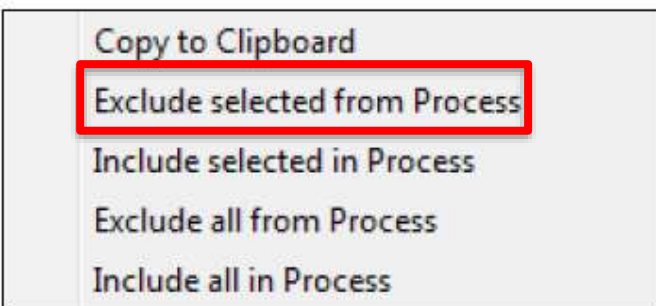
- **Plate Thumbnails Tab:** This tab displays **thumbnail images** of the **wells** for the **entire plate**. These **thumbnail images** display the **green confluence overlay** of each of the imaged **wells**.



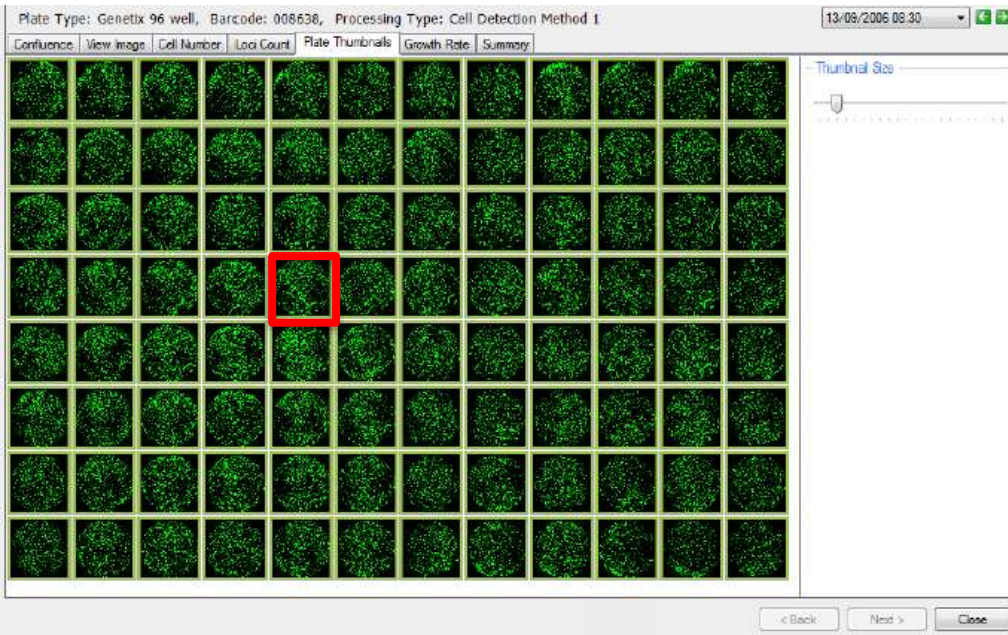
# Plate Thumbnails Tab – Including & Excluding Wells



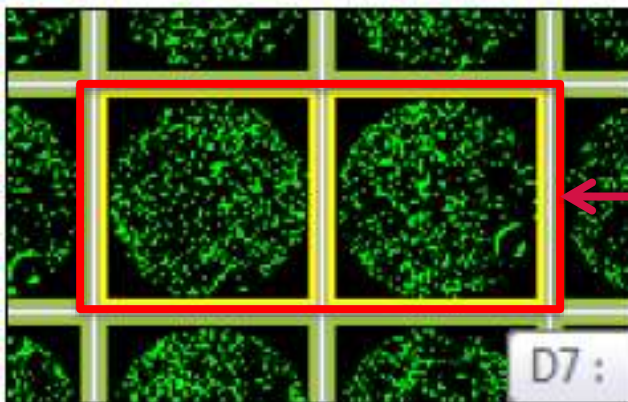
- Selected wells can be included or excluded from analysis from this view. Any wells included or excluded will be updated in the Confluence, Cell Number, Loci Count and Growth Rate tabs as well. You can select wells as follows:
  - Right mouse clicking on the well of interest will display an options menu where a single or all wells can be excluded or included. Excluded wells are displayed with a red outline. Included wells are displayed with a green outline.



# Plate Thumbnails Tab – Including & Excluding Wells



- Selected wells can be included or excluded from analysis from this view. Any wells included or excluded will be updated in the Confluence, Cell Number, Loci Count and Growth Rate tabs as well. You can select wells as follows:
  - Right mouse clicking on the well of interest will display an options menu where a single or all wells can be excluded or included. Excluded wells are displayed with a red outline. Included wells are displayed with a green outline.
  - Holding down the **Control** key on the keyboard and the **left mouse button** allows **several wells** to be **selected**. These will be highlighted in **yellow** and the **selecting** from the pop-up options menu will enable these wells to be **included or excluded** from the data set.



*Hold down CTRL + Left Mouse Click to Select Multiple Wells to Include or Exclude*

# Plate Thumbnails Tab – Changing Thumbnail Zoom

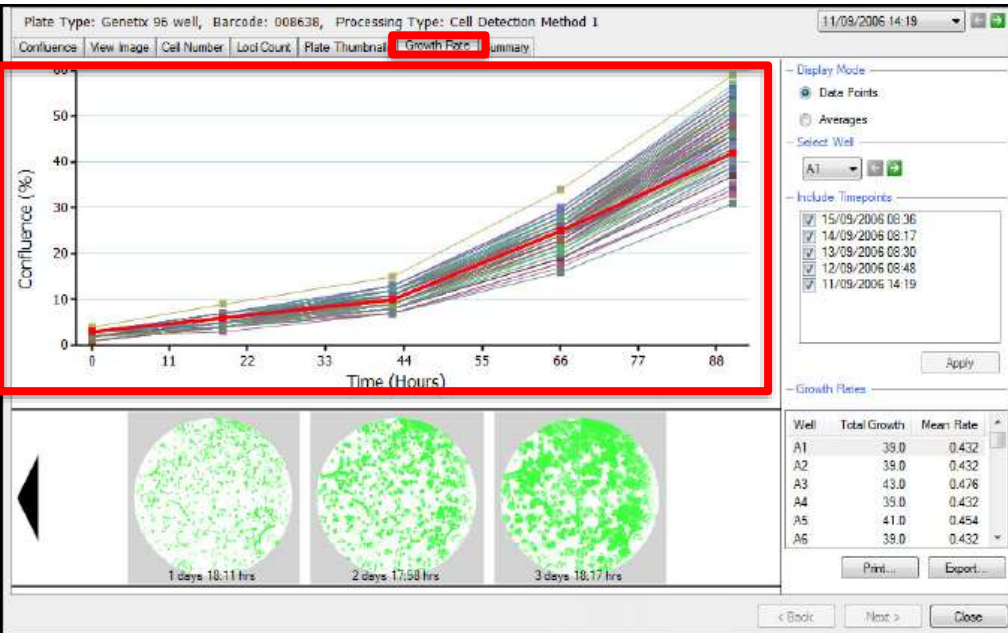


- Click and drag the **Thumbnail Size** slider to **zoom** the thumbnail view in or out.





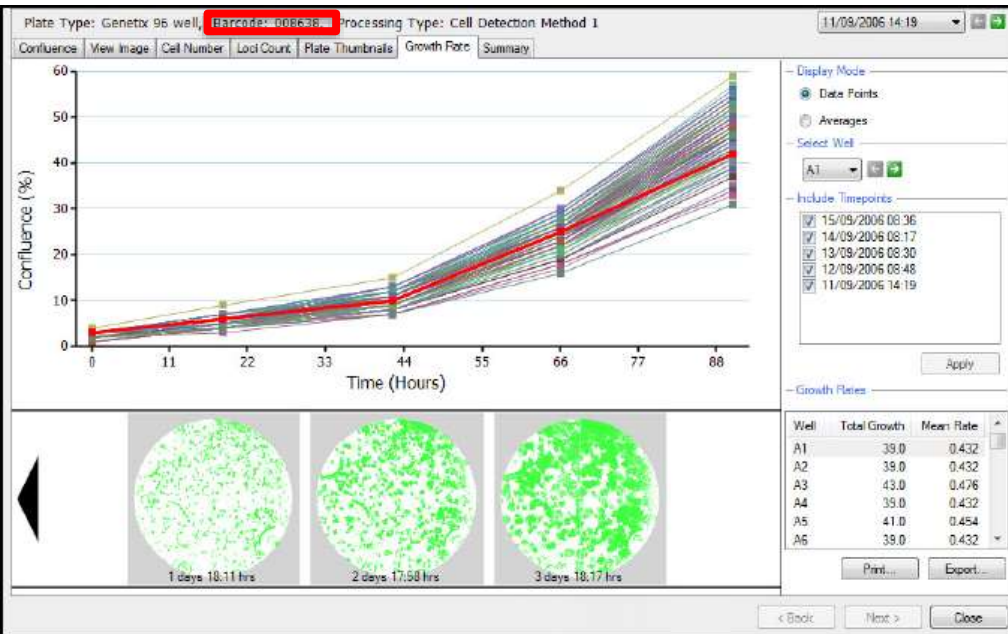
# Growth Rate Tab - Overview



- **Growth Rate Tab:** If a selected microplate has been imaged at multiple time points, **growth curves** are displayed for **all wells** in the plate on this tab. The default graph view plots **% Confluence** of the wells vs. **Time (Hours)**.



# Growth Rate Tab - Overview

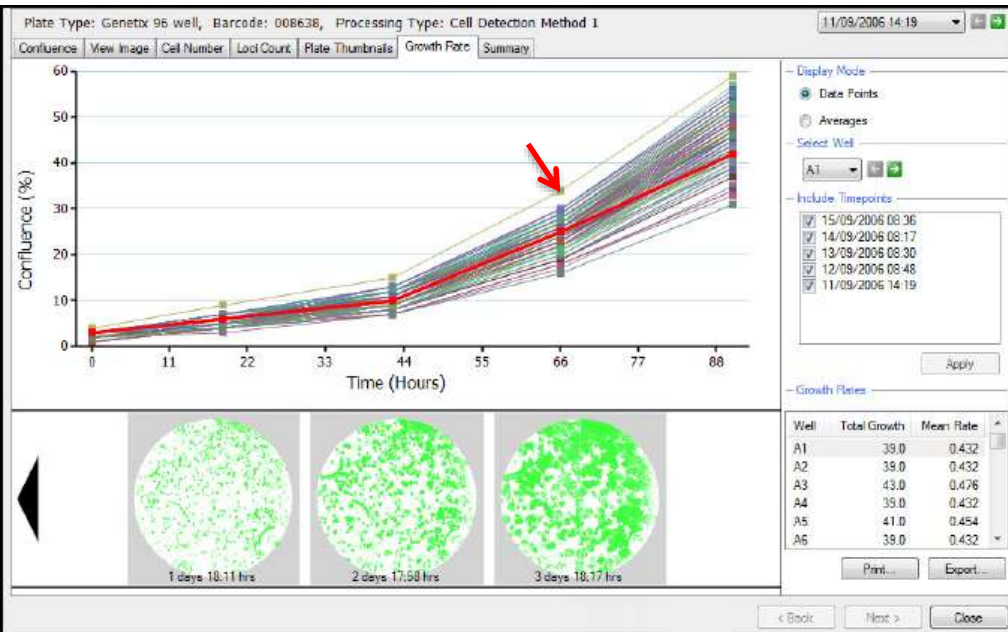


- **Growth Rate Tab:** If a selected microplate has been imaged at multiple time points, **growth curves** are displayed for **all wells** in the plate on this tab. The default graph view plots **% Confluence** of the wells vs. **Time (Hours)**.
- The **software** determines if the plate has been imaged by **collating data** from **the same barcoded plate**, so ideally **barcoded microplates** should be used to ensure all data is gathered properly for a given plate over time.

**HINT:** Named plates can also be used but the *name must be typed in exactly the same each time that the plate is imaged*, so that the software can collate the results over time.

The ability to **rename plates** also enables **mis-named plates** to be **included** in the **growth curve data** if required.

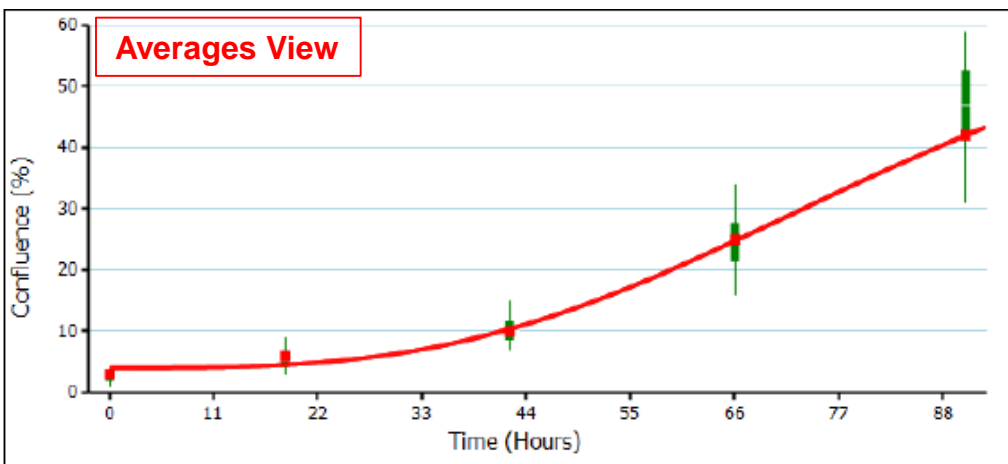
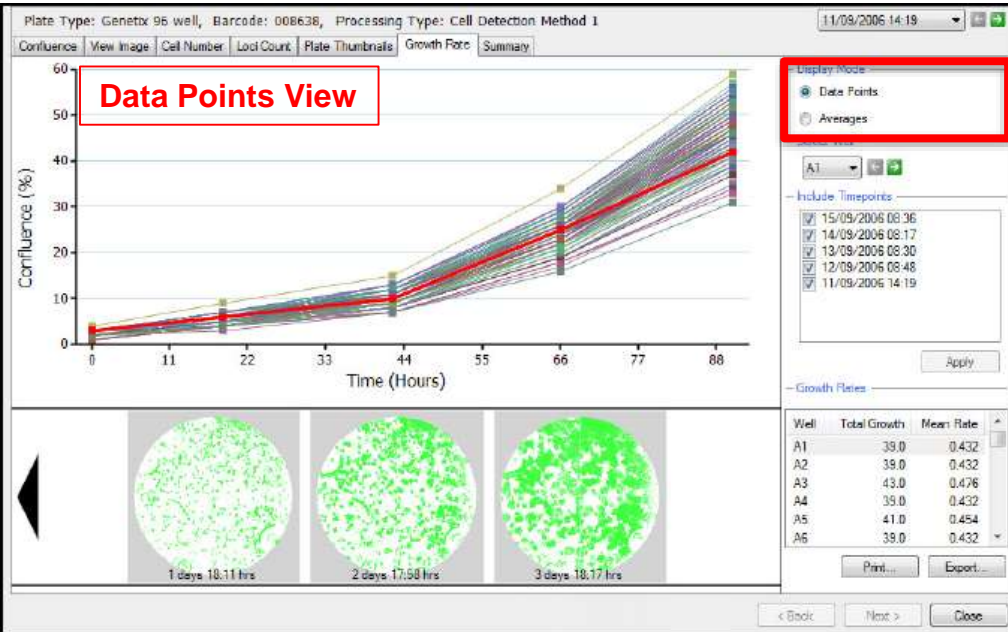
# Growth Rate Tab - Overview



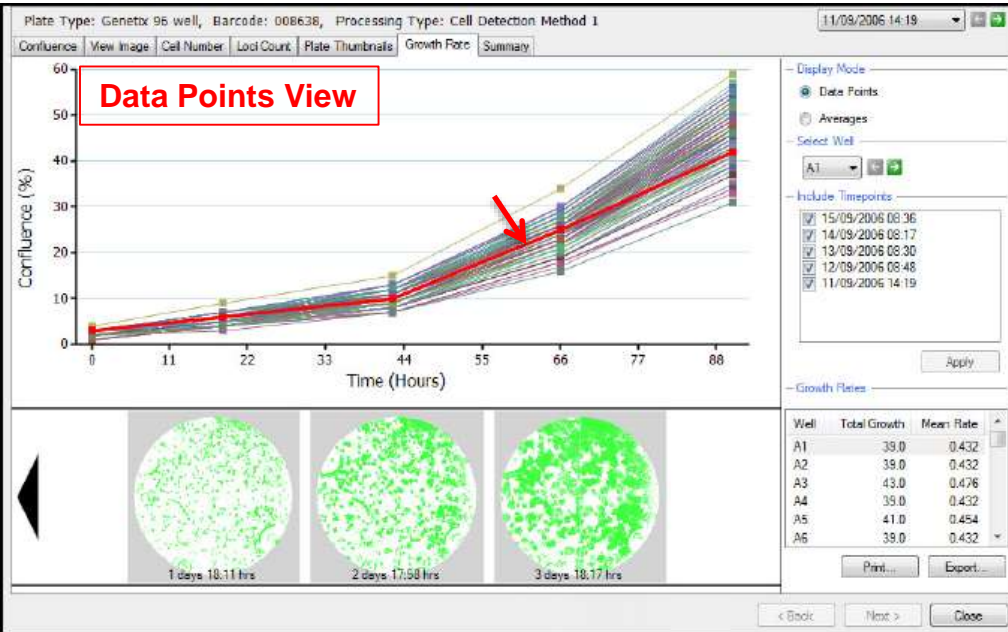
- **Growth Rate Tab:** If a selected microplate has been imaged at multiple time points, **growth curves** are displayed for **all wells** in the plate on this tab. The default graph view plots **% Confluence** of the wells vs. **Time (Hours)**.
- The **software** determines if the plate has been imaged by **collating data** from the **same barcoded plate**, so ideally **barcoded microplates** should be used to ensure all data is gathered properly for a given plate over time.
- Hovering your **cursor** over **each data point** in the **graph** displays the **well coordinate** for that **point**.

# Growth Rate Tab – Display Mode

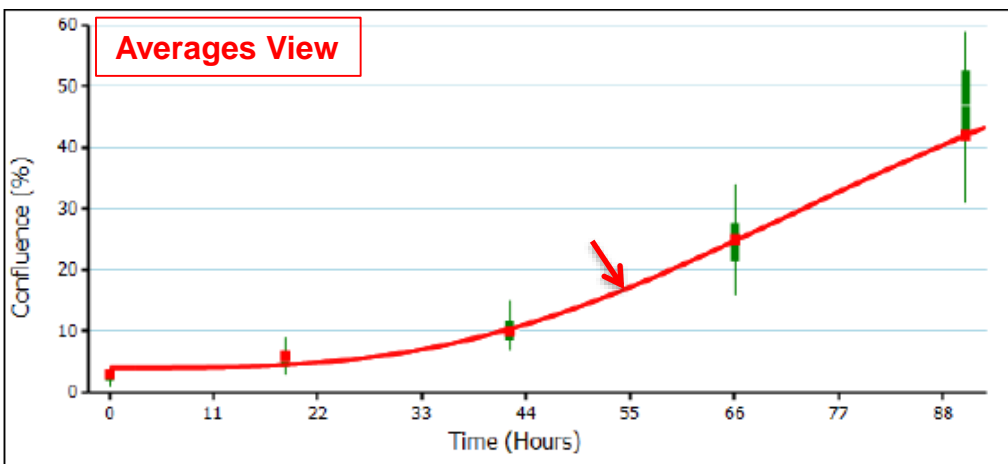
- **Display Mode:** The growth rate graph can be displayed with all well data points by selecting the **Data Points** option or as **averages** by selecting the **Averages** option.



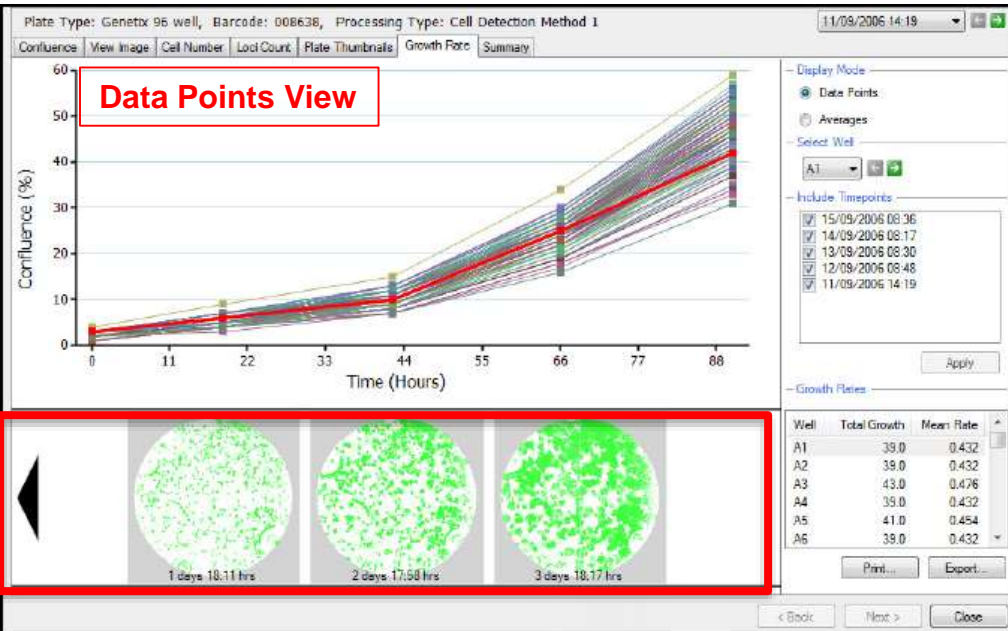
# Growth Rate Tab – Display Mode



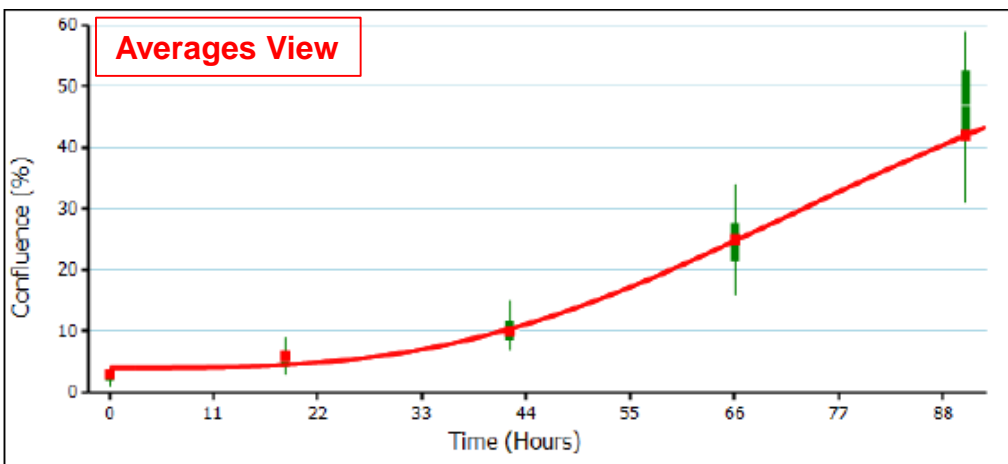
- **Display Mode:** The growth rate graph can be displayed with all well data points by selecting the **Data Points** option or as averages by selecting the **Averages** option.
- The **thick red** line within both graph views is displaying the **growth rate** for the **selected well**, e.g. A1.



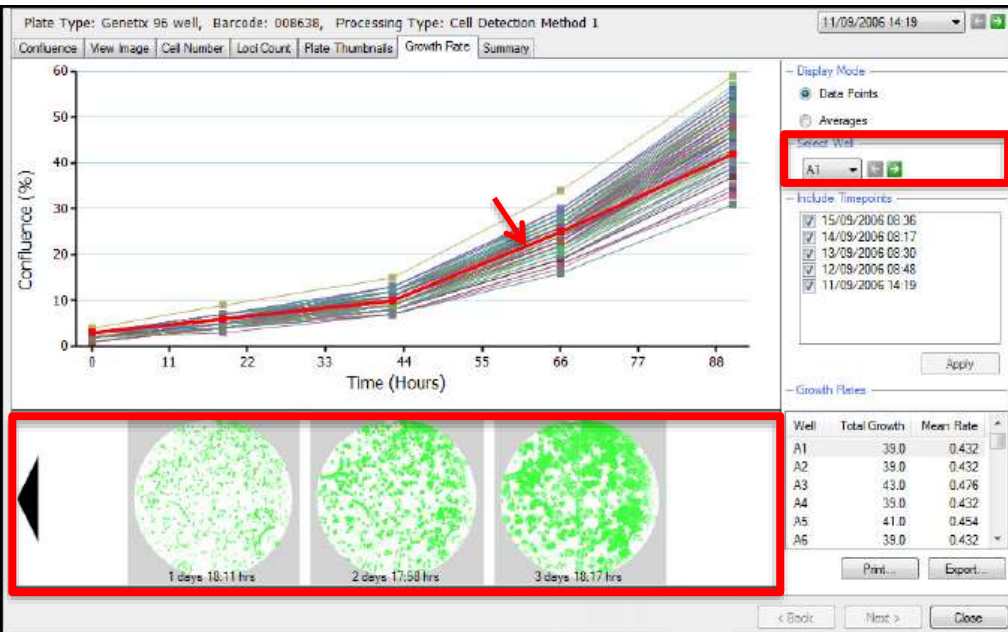
# Growth Rate Tab – Display Mode



- **Display Mode:** The growth rate graph can be displayed with all well data points by selecting the **Data Points** option or as averages by selecting the **Averages** option.
- The **thick red line** within both graph views is displaying the **growth rate** for the **selected well**, e.g. A1.
- The **well schematic** below the **graph** is also displaying the **captured images** for the **selected well** over time.

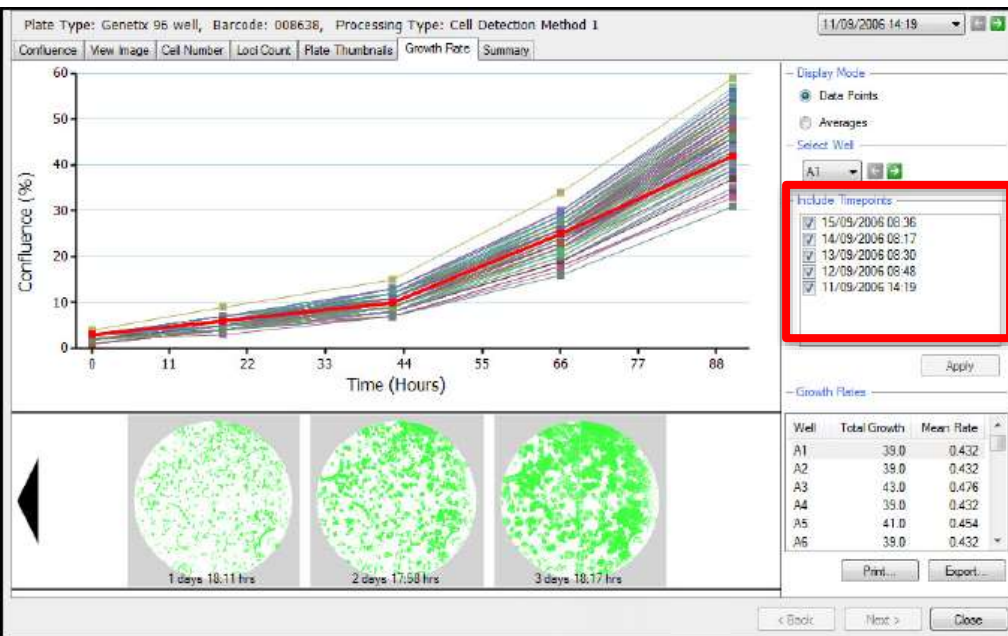


# Growth Rate Tab – Select Well



- **Select Well:** This drop down menu allows the displayed well to be changed.
- The **selected well** will be highlighted by a **thick red line** in the **graph view**, and the **filmstrip view** will update as well.
- You can also **advance through the wells** using the **arrow keys** next to this dropdown.

# Growth Rate Tab – Including & Excluding Timepoints

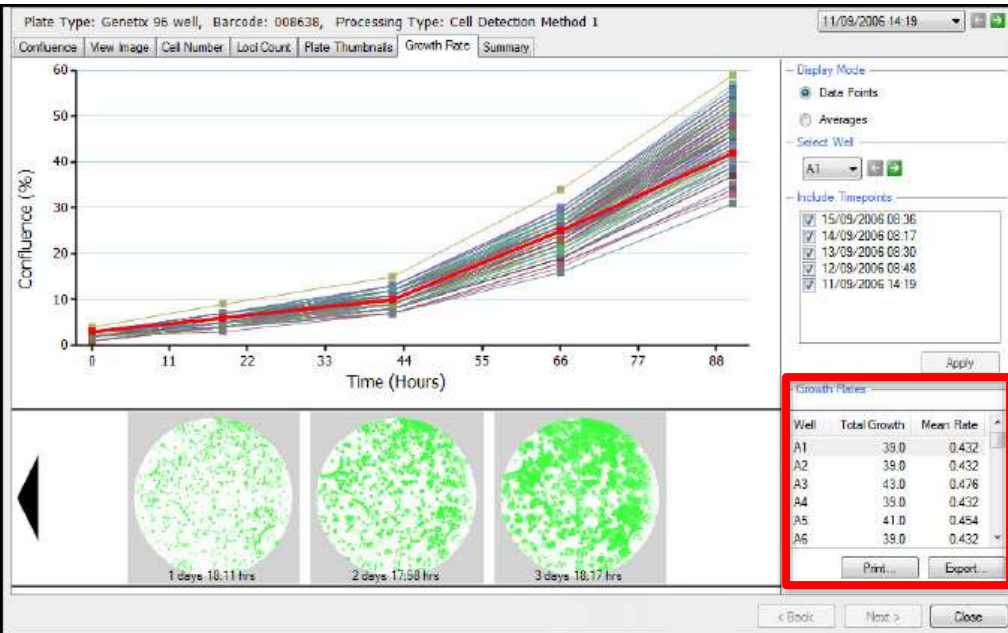


- **Include Timepoints:** This field allows for inclusion or exclusion of selected timepoints from the displayed data.
- **All timepoints** for a given plate are **selected** (checked) in the list by default.
- **Uncheck the box** next to a selected timepoint to **exclude** it.



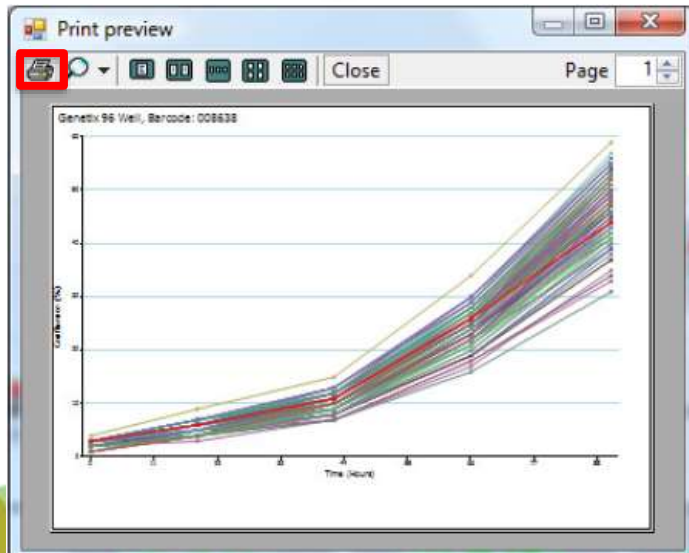
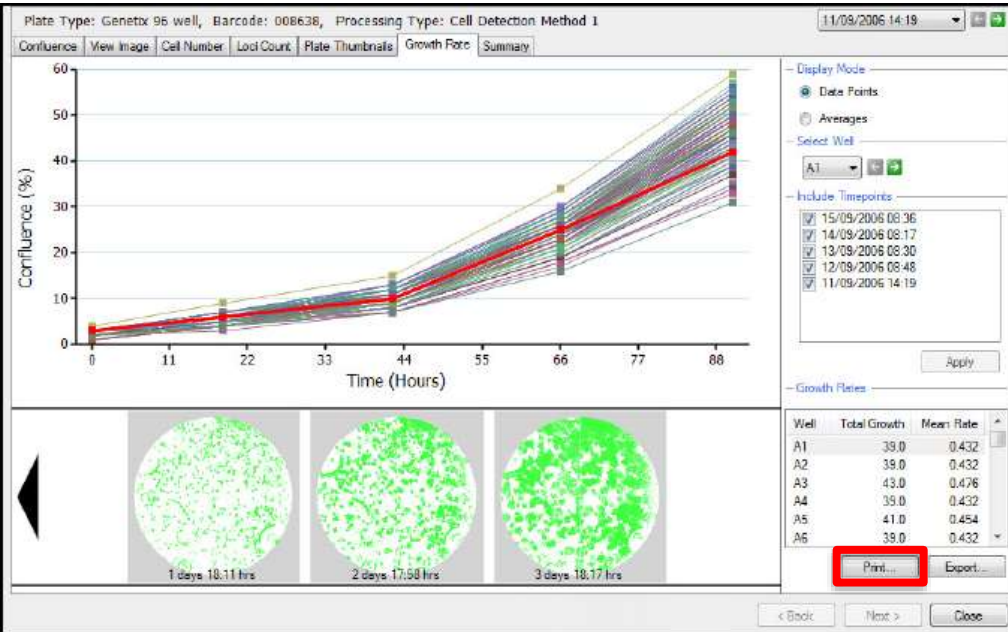
# Growth Rate Tab – Growth Rates Table

- **Growth Rates:** This field displays the **Well Name, Total Growth and Mean Rate** for each well in the data set.

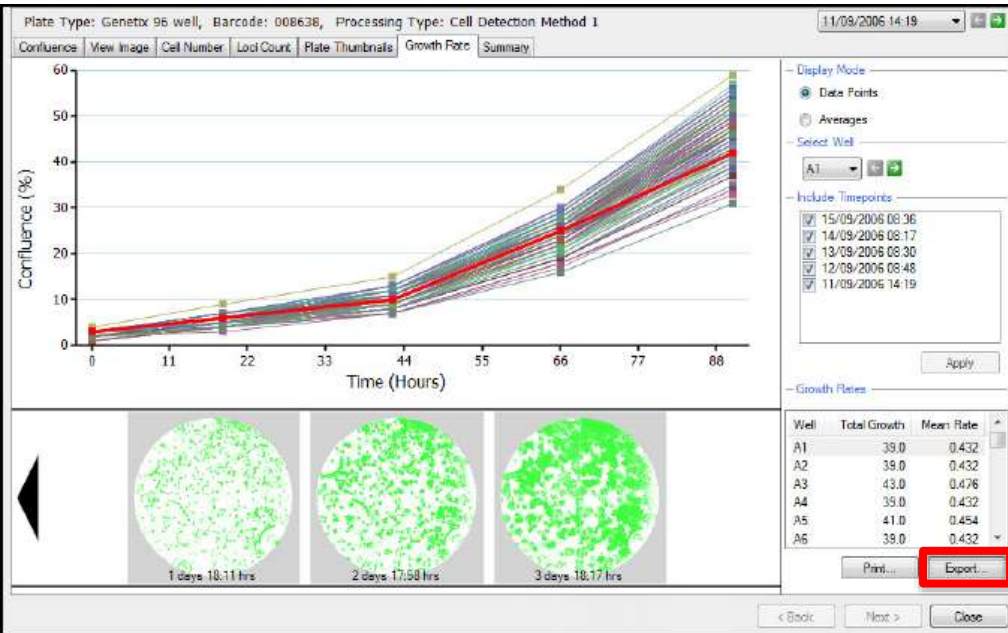


# Growth Rate Tab – Print Graph

- **Print:** Click this button to open a **print preview** copy of the **growth curves**. If your **computer** is **networked** to a **printer**, you can print the **graph** from this dialog.



# Growth Rate Tab – Export Data



- **Export:** Click this button to launch a **Data Export Wizard** that will guide you through the process of exporting the **confluence data** as a **.csv or .xml** file.
- Be sure to select the **Confluence** option, then click **Next**.
- The wizard now provides the option to export the data for the **following time points:**

Select which time points to export:

The currently selected time

The most recent time for each well plate

The complete time series

Data Export

Select the type of results that you want to include

Confluence

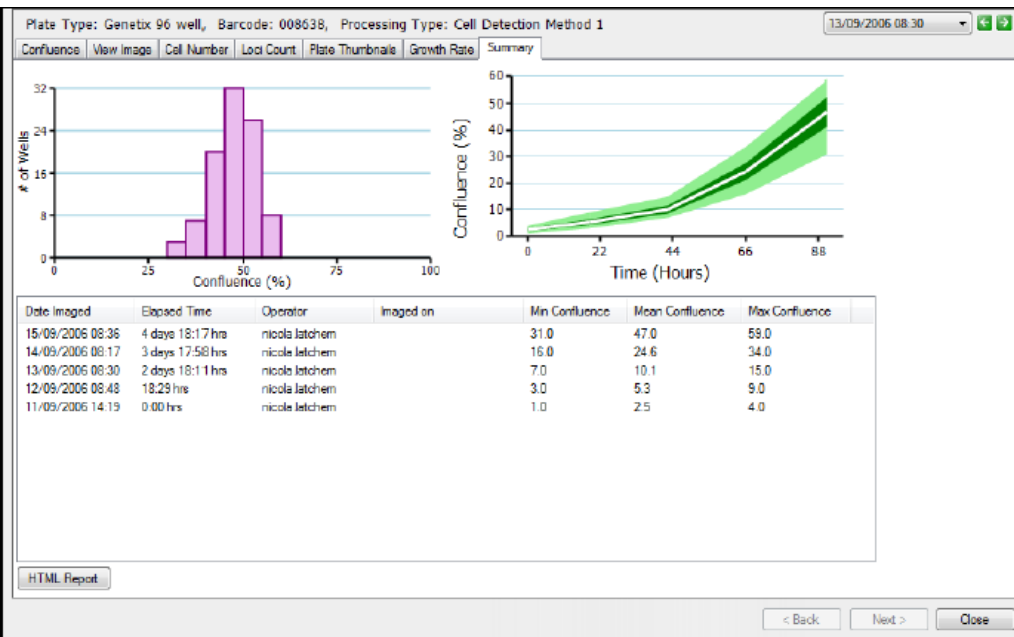
Cell Number  
 Select Cell Number Formula  
 NC1

Lock Count (May require time to generate data)  
 Lock Criteria  
 Well Diameter: 8.30 [mm]  
 Minimum Area: 25 [µm²] Minimum Compactness: 52  
 Minimum Area: 243144 [µm²] Minimum Compactness: 90  
 Minimum Size: 20

Colony area distribution  
 Colony area and compactness for all colonies

< Previous Next > Cancel

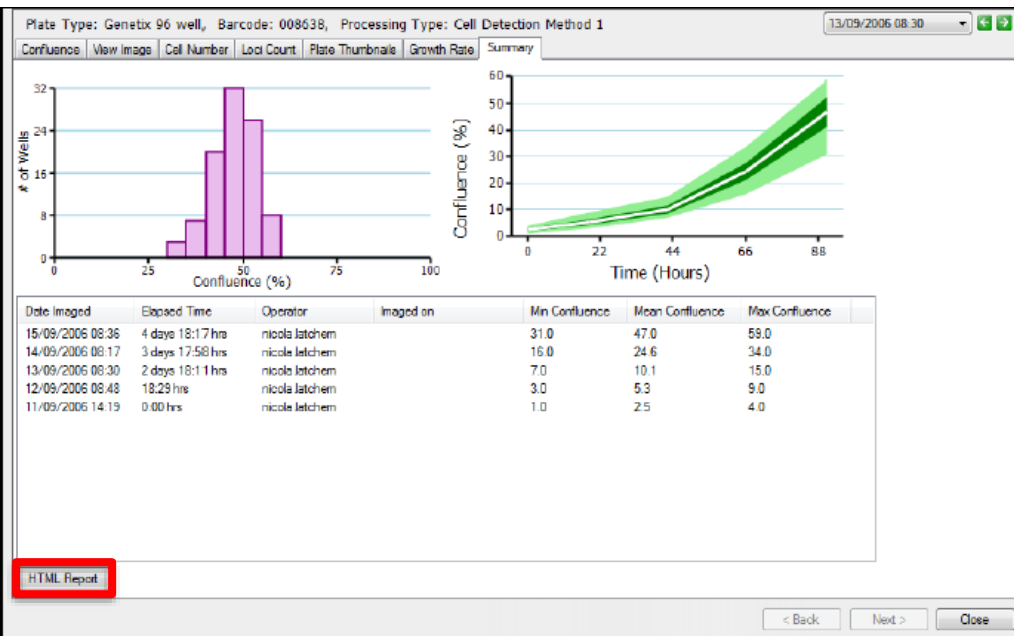
# Summary Tab – Overview



- **Summary Tab:** This tab displays a summary of the confluence data, growth curve data and imaging credentials.
- The table lists the Date Imaged, Elapsed Time, Operator, Imaged on, Min Confluence, Mean Confluence and Max Confluence for each time the plate was imaged.



# Summary Tab – Generating an HTML Report



- **HTML Report:** Click this button to launch the **HTML Report Wizard** that will guide you through generating a **report** containing the desired information in **HTML format**.
- **Data points and visualizations** including **confluence, growth rate, cell number** etc., can be selected for **inclusion in the report** by **enabling the respective check boxes in the wizard**.
- Clicking **Generate** will **create** the report which can be saved as a **.html** file.

**HTML Report Wizard**

Please select the sections that are to be included in the report:

Confluence

Growth Rate

Cell Number

— Select Cell Number Formula —

NST

Plate Thumbnails

Local Count

— Local Criteria —

Well Diameter: 6.90 mm

Minimum Area: 56  $\mu\text{m}^2$  Minimum Compactness: 0

Maximum Area: 161102  $\mu\text{m}^2$  Maximum Compactness: 100

Generate Cancel

For research use only. Not for use in diagnostic procedures.

# Exporting Selected Results: Bulk Data Export

Warning: Only 21% Free Disk Space Available

Run#	Date	Barcode	Wellplate	Operator	Annotation	Disk Space
Archive	17/06/2011 13:53:28	006359	96 Well	Administrator	1 well has been imaged.	6.06 MB
Results	17/06/2011 13:50:37	003026	96 Well	Administrator	60 wells have been imaged.	423.93 MB
Finish	17/06/2011 09:31:55	003026	96 Well	Administrator	12 wells have been imaged.	84.45 MB

Manage Results

- View
- Export**
- Archive
- Delete
- Rename

Results Selection

- Results Location...

Other Applications

- Migration

Find: In Field: All Showing 25 of 29

Start Time: 13:55:21

< Back Next > Cancel

- To export selected results, **shift-click** or **control-click** to **highlight** the data set(s) of interest in the list and then click **Export**.
- A **Data Export wizard** will now be displayed that allows data from **the selected results** to be exported in **.csv** or **.xml** format.

Data Export

Select the type of results that you want to include

**Confidence**

**Cell Number**

— Select Cell Number Formula —

NC1

**Load Count** (May require time to generate data)

— Load Criteria —

Well Diameter: 6.30 (2) mm

Well Area: 25 (2)  $\mu\text{m}^2$  Minimum Concentration: 50

Wellplate Area: 240 (44)  $\mu\text{m}^2$  Maximum Concentration: 80

Wellplate Size: 20 (2)

Colony area distribution

Colony area and composition for all colonies

< Previous Next > Cancel

earch use only. Not for use in diagnostic procedures.

# Deleting Selected Results

Warning: Only 21% Free Disk Space Available

Run#	Date	Barcode	Wellplate	Operator	Annotation	Disk Space
Archive	17/06/2011 13:53:28	006359	36 Well	Administrator	1 well has been imaged.	6.06 MB
Results	17/06/2011 13:50:37	003026	36 Well	Administrator	60 wells have been imaged.	423.93 MB
Finish	17/06/2011 09:31:55	003026	36 Well	Administrator	12 wells have been imaged.	84.45 MB

Start Time: 13:55:21

Find: In Field: All Showing 25 of 29

Manage Results  
View  
Export  
Archive  
Delete  
Rename  
Results Selection  
Results Location...  
Other Applications  
Migration

« Back Next » Cancel

- To delete selected results, shift-click or control-click to highlight the data set(s) of interest in the list and then click Delete.

# Renaming Selected Results

Warning: Only 21% Free Disk Space Available

Run#	Date	Barcode	Wellplate	Operator	Annotation	Disk Space
Archive	17/06/2011 13:53:28	006353	36 Well	Administrator	1 well has been imaged.	6.06 MB
Results	17/06/2011 09:31:55	003026	36 Well	Administrator	12 wells have been imaged.	84.45 MB

Start Time: 13:55:21

Find: In Field: All Showing 25 of 29

Manage Results: View, Export, Archive, Delete, **Rename**

Results Selection: Results Location...

Other Applications: Migration

Buttons: < Back, Next >, Cancel

- To rename selected results, **highlight the data** set of interest in the list and then click **Rename**.
- **Barcodes/plate names** can be re-named in case of any **misnamed plates** which will subsequently be excluded from growth curve data.
- A **small dialogue box** will appear in place of the **barcode/name** to enable a **new barcode/name** to be typed in its place.



# Support Resources

- Go to the HELP menu within CSI Software
- Support and Knowledge Base: <http://mdc.custhelp.com/>
- Request Support: <http://mdc.custhelp.com/app/ask> or via email [support@moldev.com](mailto:support@moldev.com)
- Technical Support can also be reached by telephone:
  - 1 (800) 635-5577
  - Select options for Tech Support → Biotherapeutics Products → Clone Select Imager



# **MOLECULAR** DEVICES

ADVANCING PROTEIN AND CELL BIOLOGY