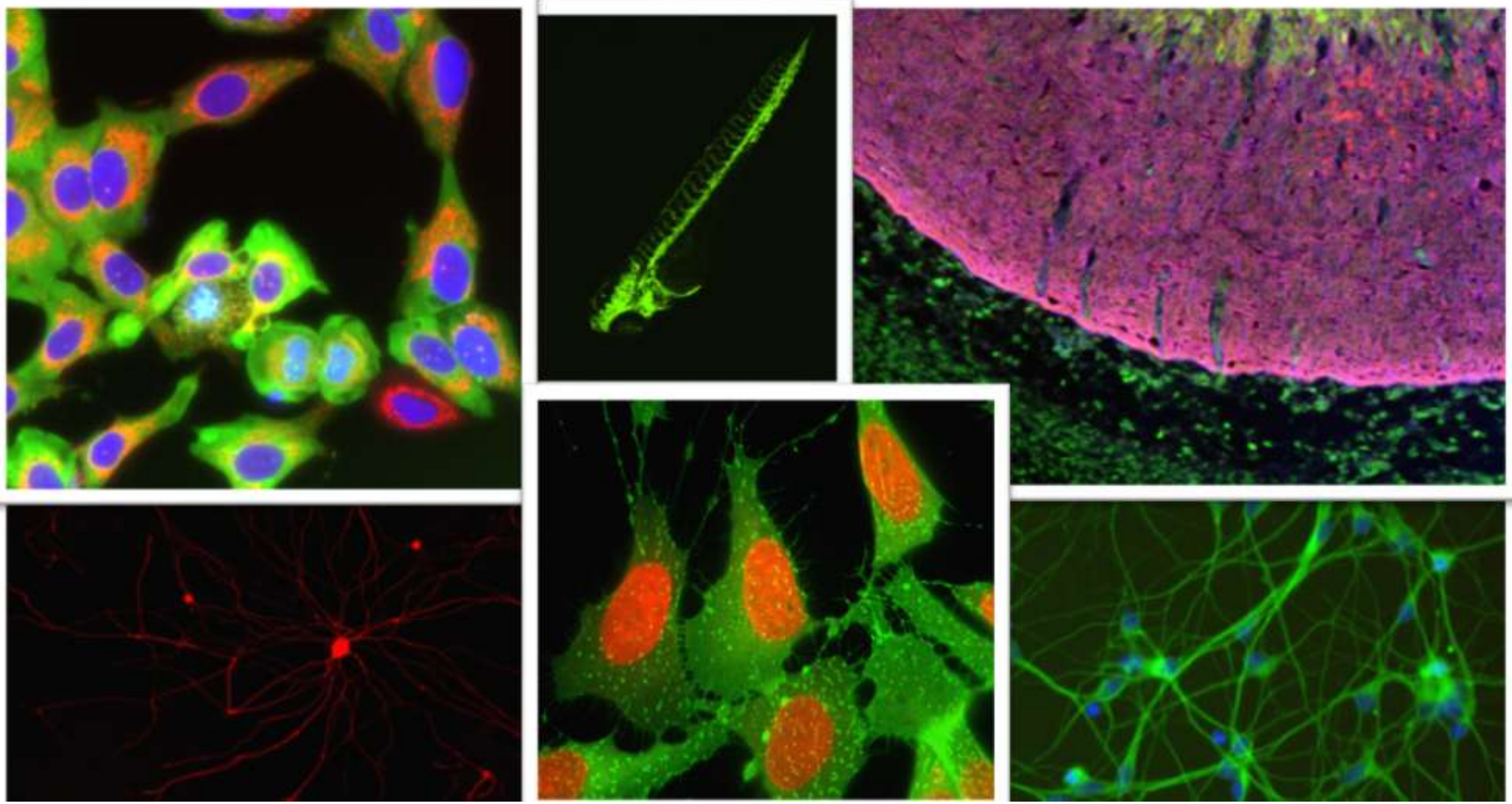


Molecular Devices

Together through life sciences.

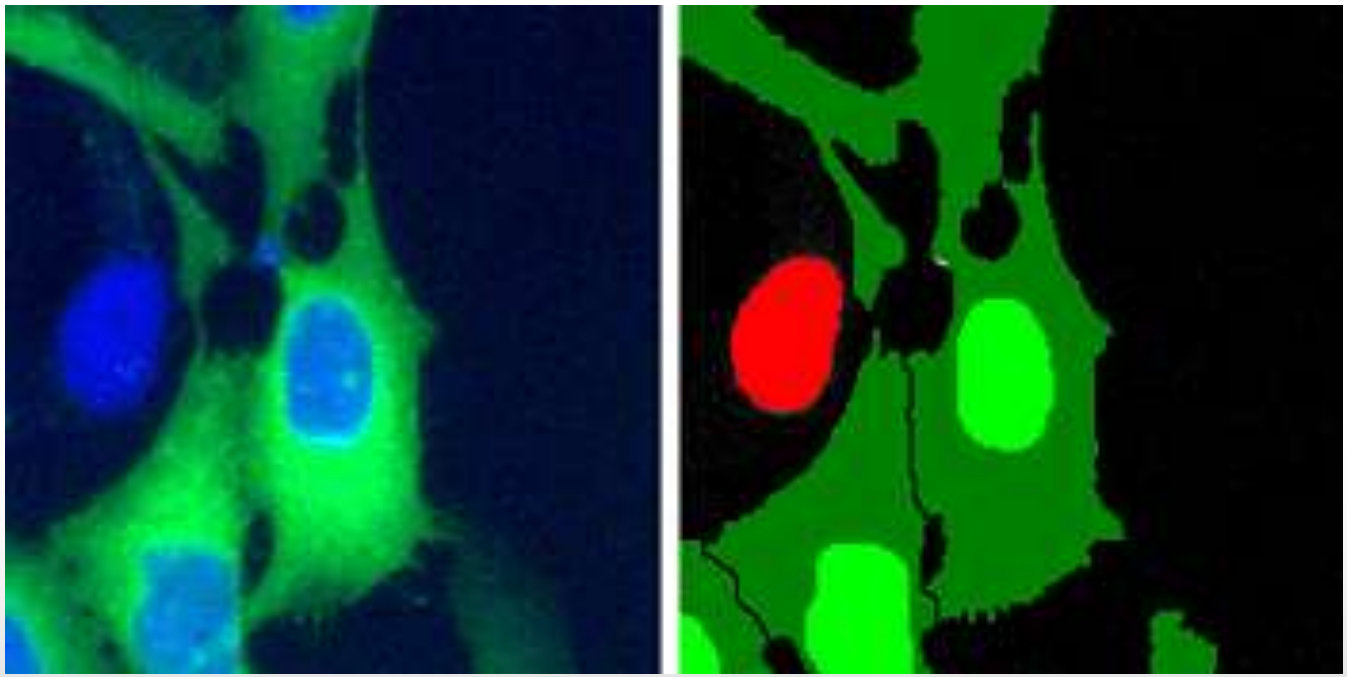
MetaXpress® Software:
Analysis Training

Together through life sciences.

Molecular Devices

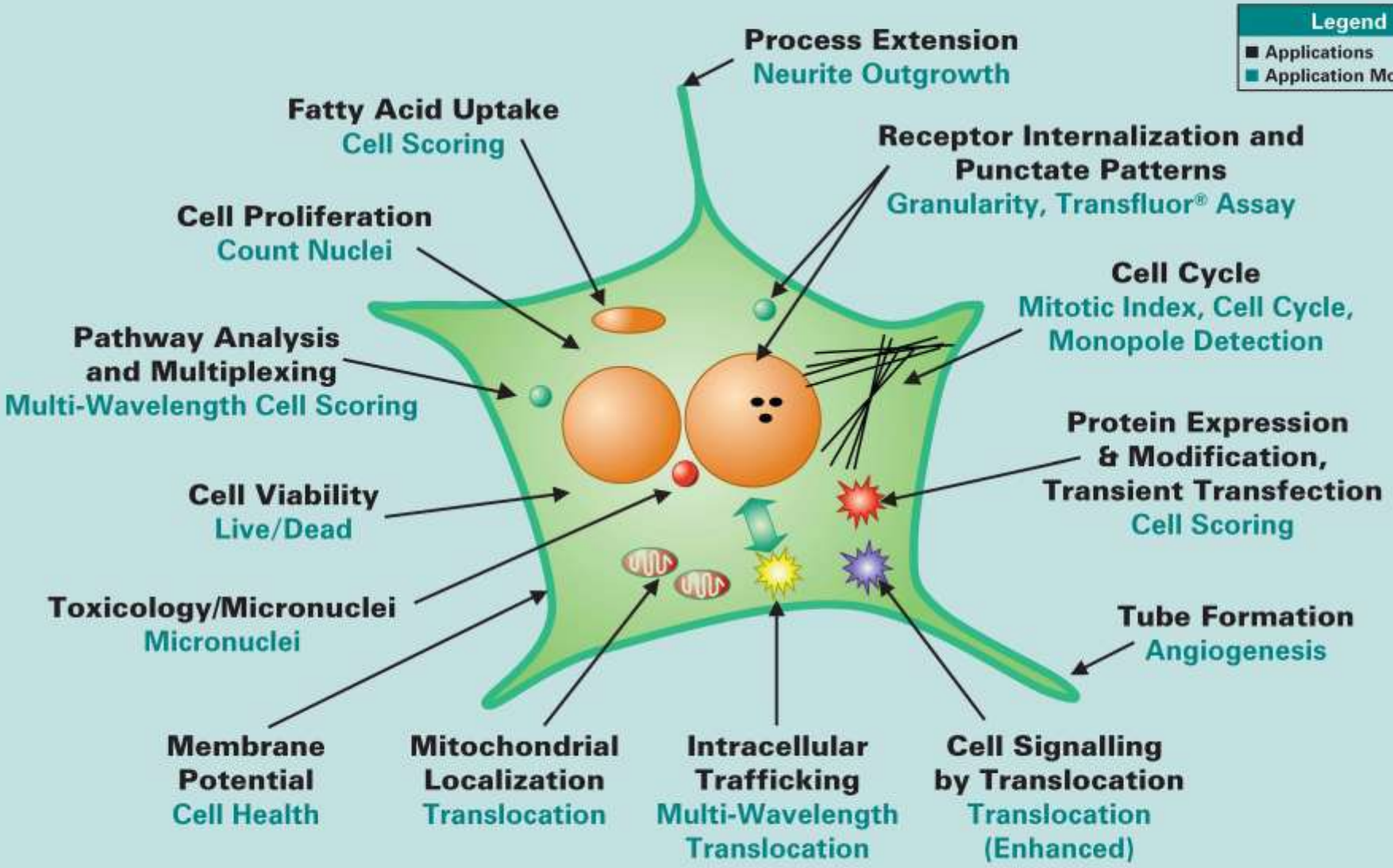
MetaXpress: Application Modules

- "Canned," walk-away automation
- Advanced segmentation, feature detection, and measurement
- Site-by-site and cell-by-cell data
- Validated results
- Can be incorporated into a journal for increased customization



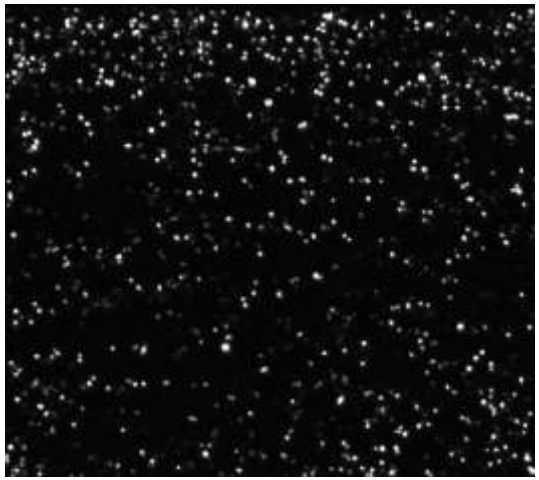
Application Modules for Hundreds of Assays

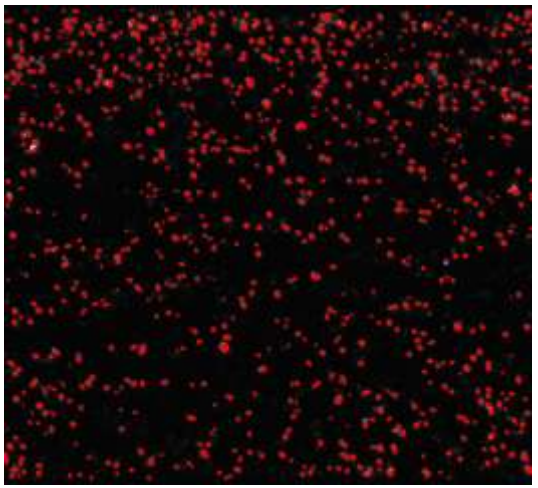
Easy Custom Analysis with Journaling

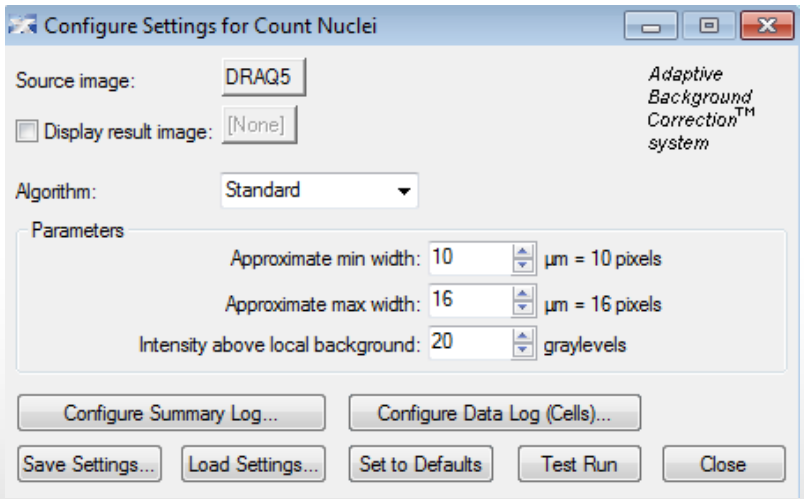


MetaXpress: Application Modules

- **All** Application Modules share the same **basic controls**
- **Simple configuration**
  - Select wavelength
  - Set size range of objects
  - Set intensity above local background
  - Test and save settings
- The module will **automatically split** touching cells





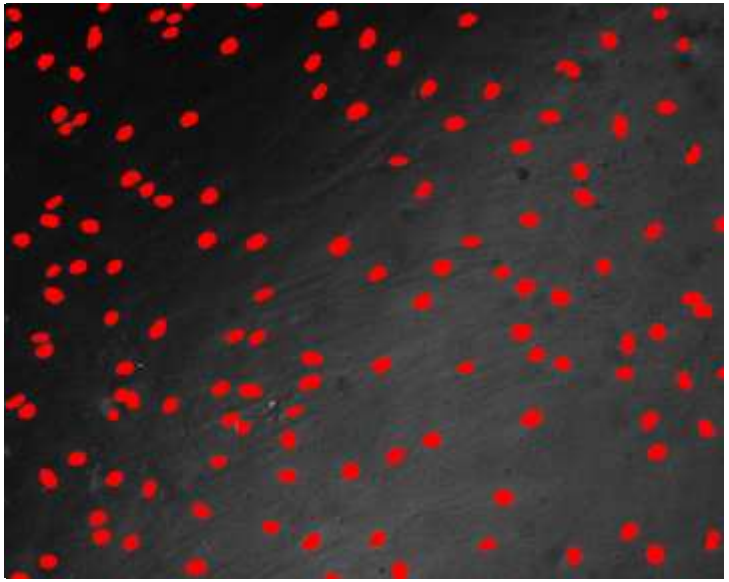


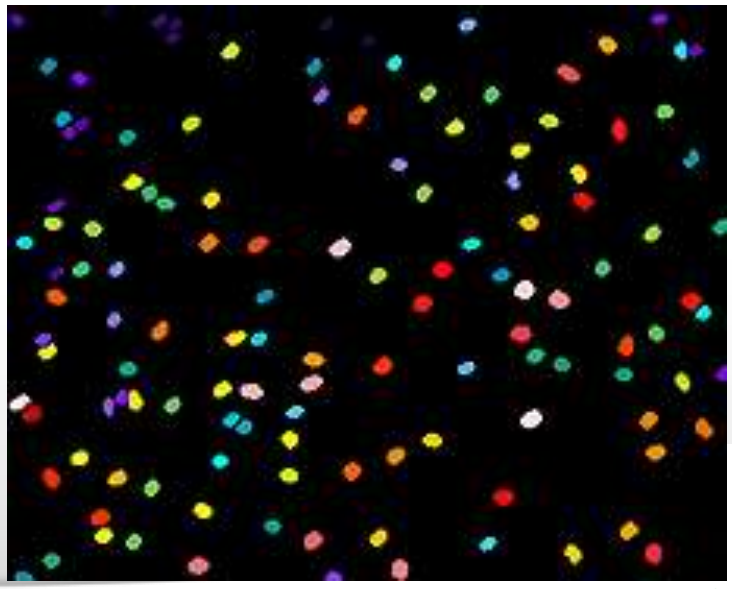
Molecular Devices

Adaptive Background Correction

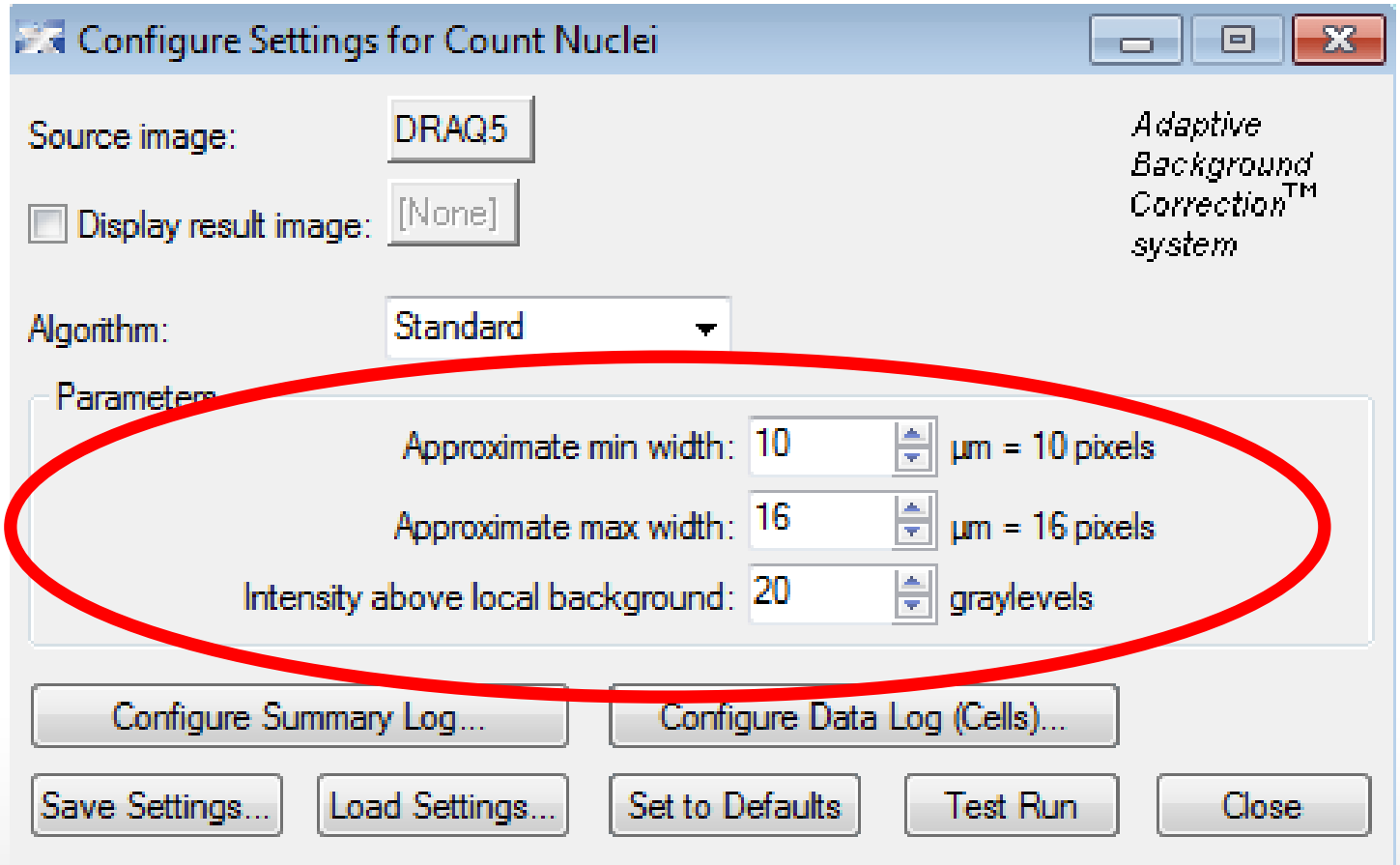
Built in background management

- ***Adaptive Background Correction*** is automatically performed by each application module
- **Detection even in noisy** and poorly stained images
- **Splits touching cells**
- **Consistent** performance across multiple plates

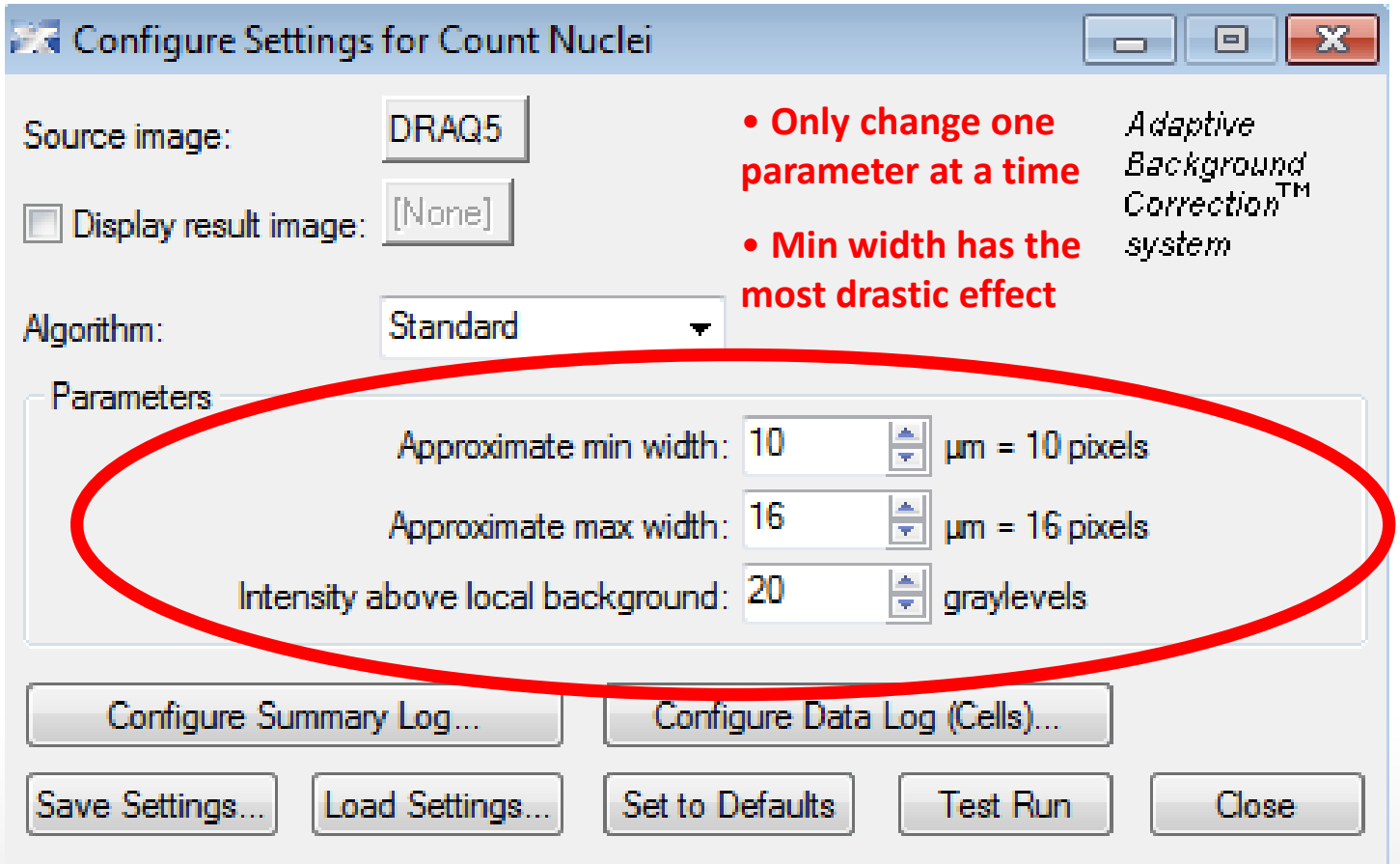




Configuring settings – the basics



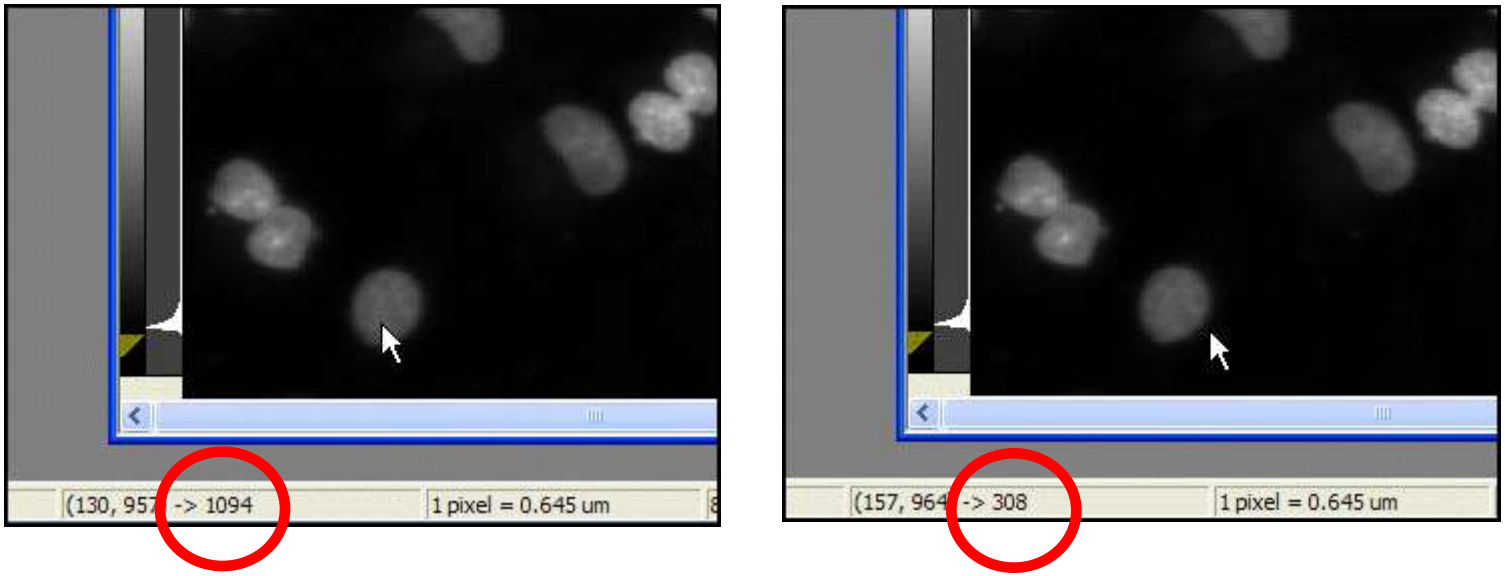
Optimizing settings



Measuring width

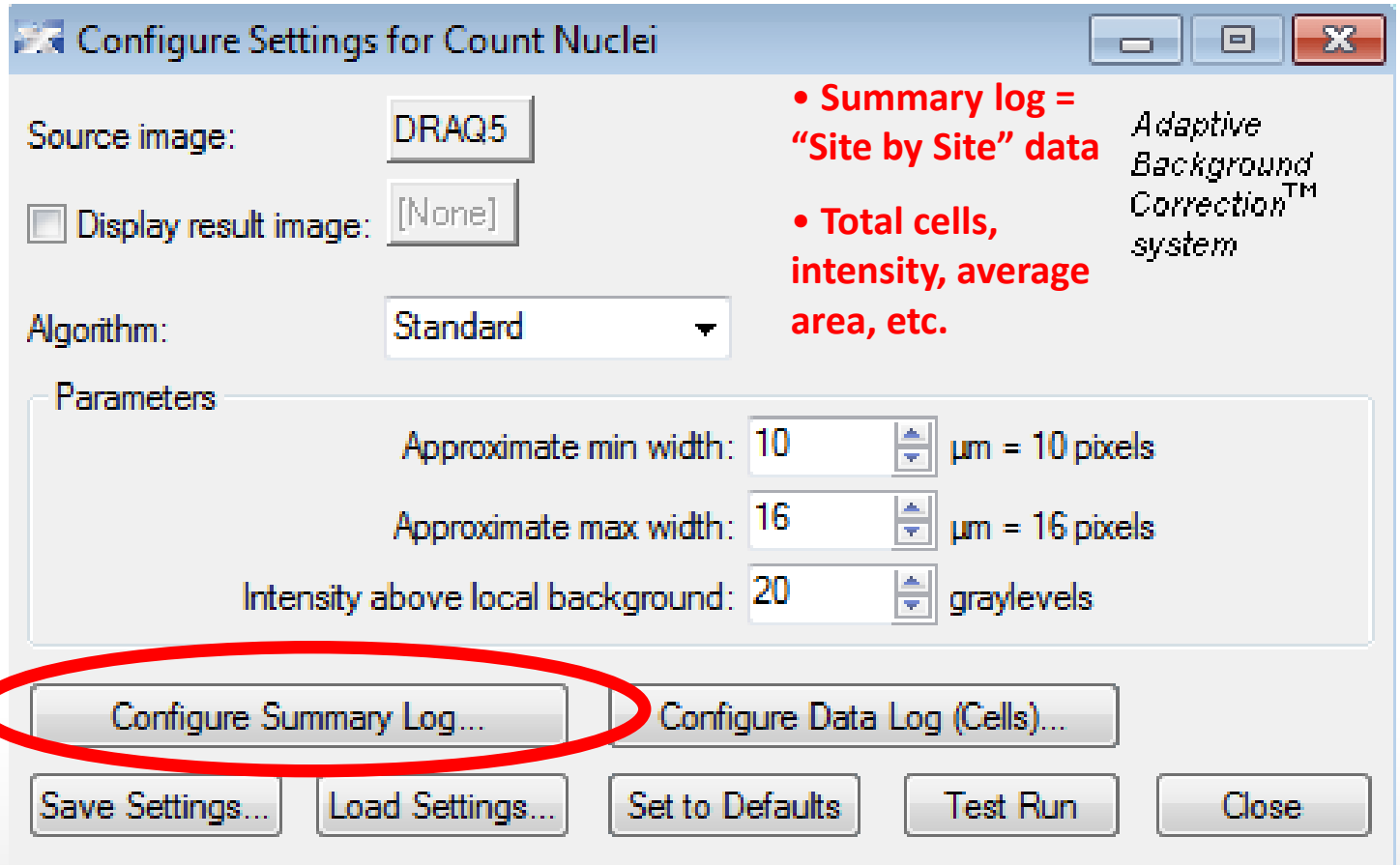
- Use the line tool
- Measure across the short axis
- Find a small cell and a large cell

Measuring Intensity above Local Background

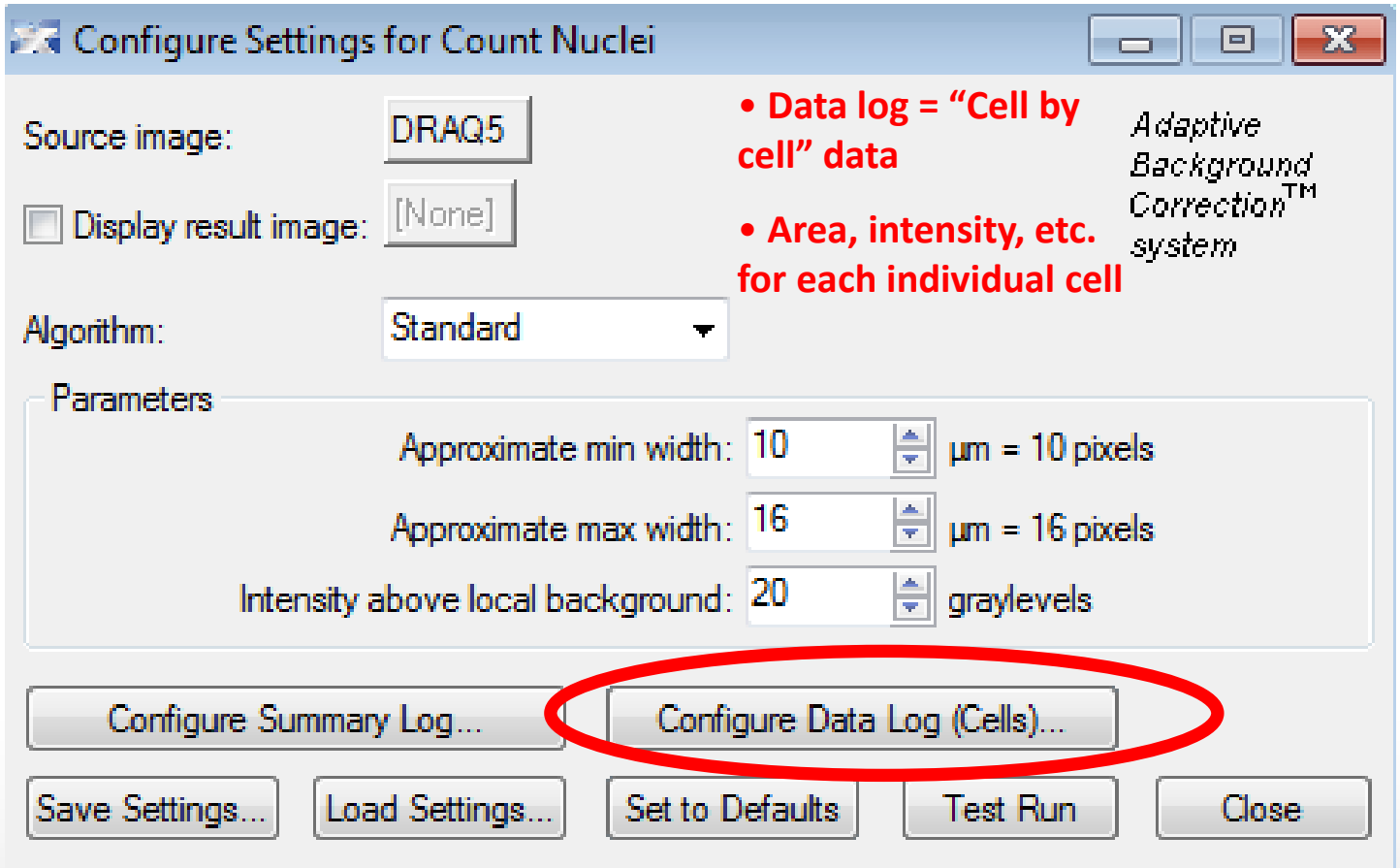


1. **Find a dim cell**
2. **Measure intensity just inside and outside the cell**
3. **Subtract to find the difference (1094 – 308 = 786)**
4. **“Pad” the value by about 100 gray values (786 – 100 = 686).**
   Note: For FAST algorithm, cut this value in half.

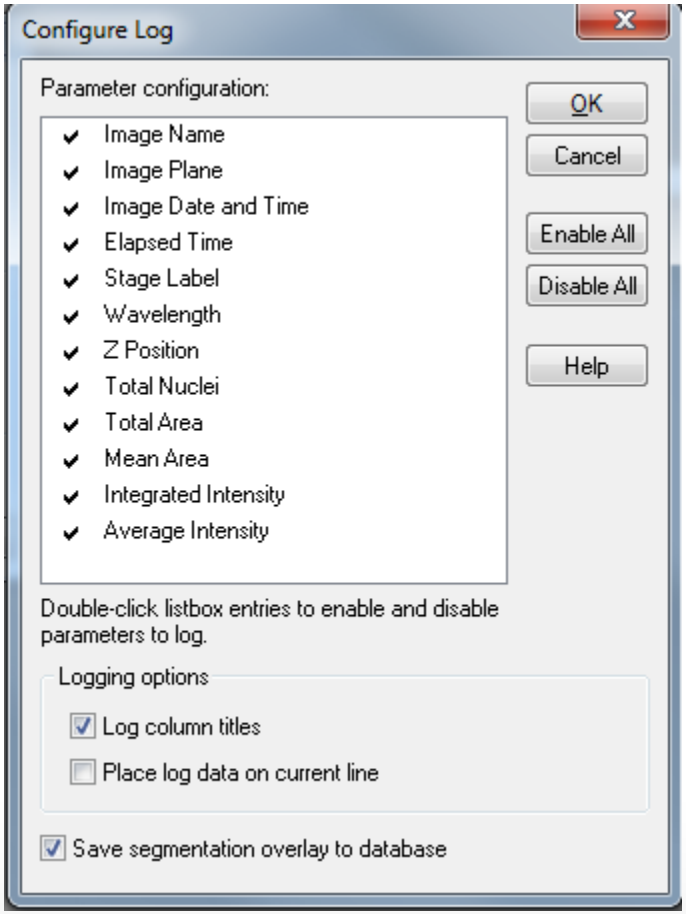
Selecting measurements



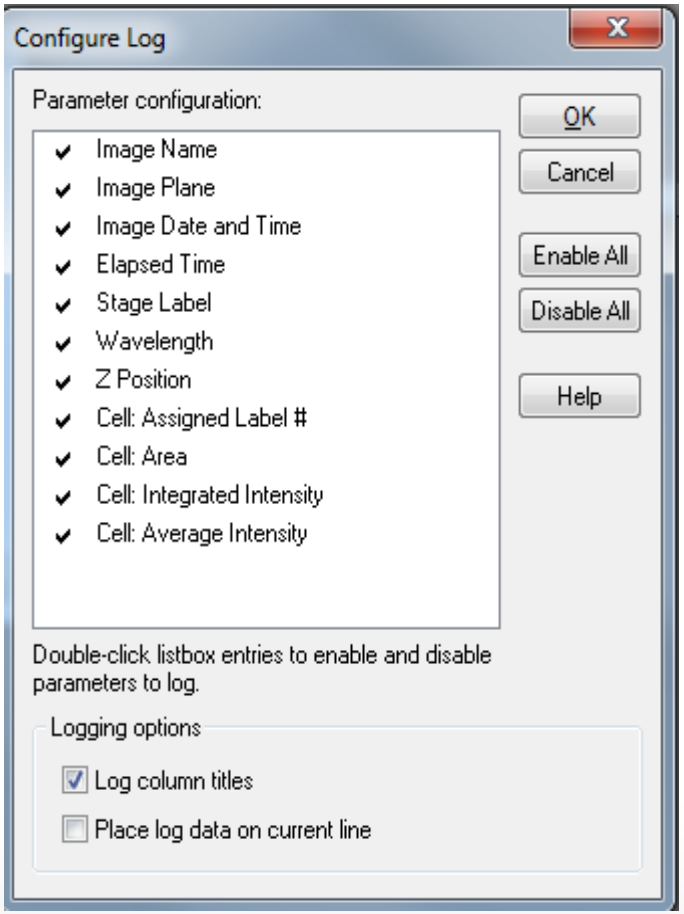
Selecting measurements



Selecting measurements

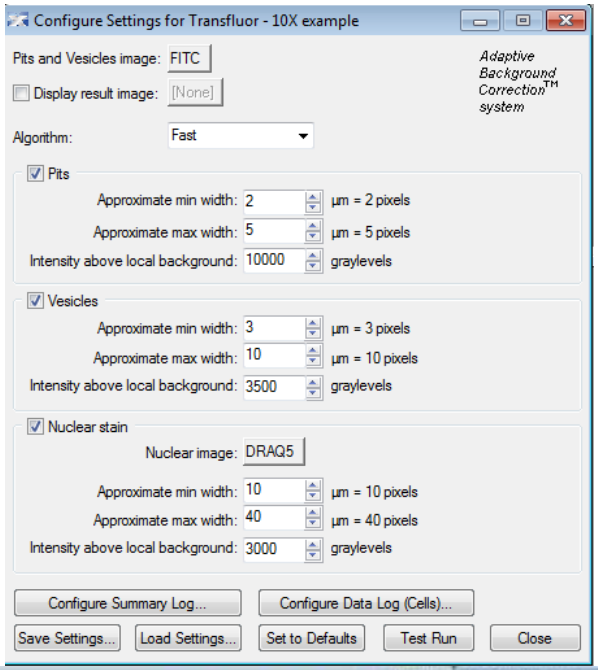


Configure Summary Log



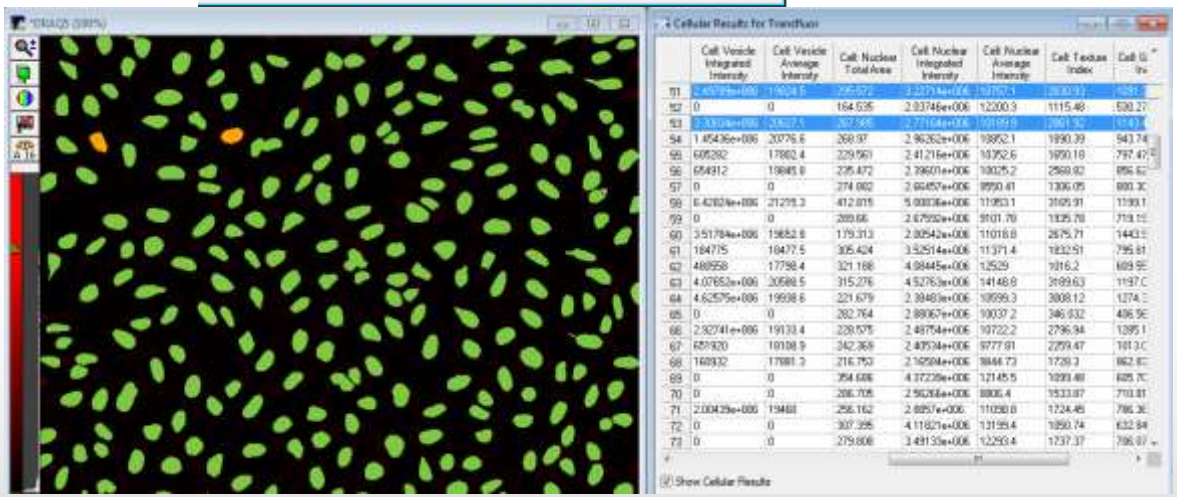
Configure Data Log

Module – interactive feedback



Interactive optimization of analysis parameters

Immediate graphic feedback on detection results



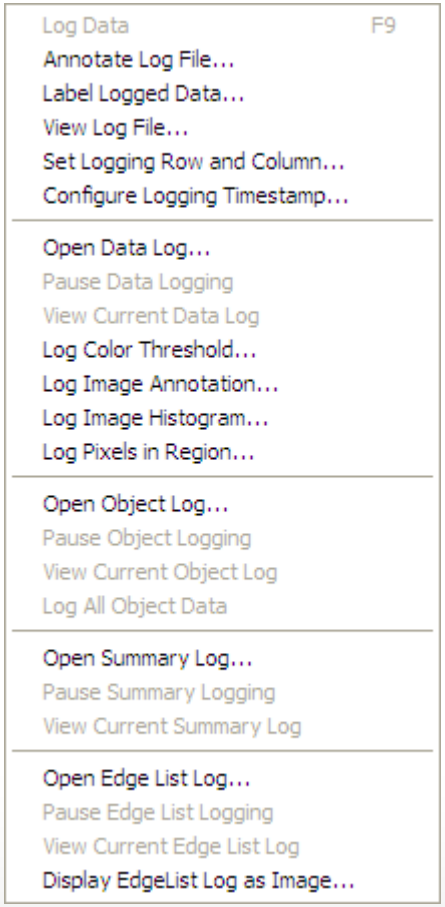
Links numerical results to image overlays

Logging out your data

- Four types of logs in MetaXpress
  - **Data Log**: Opens an existing or new data log for storing measurements other than morphometric measurements
  - **Summary Log**: Opens an existing or new summary log for storing summaries of morphometry statistics
  - **Object Log**: Opens an existing or new object log for storing per-object morphometric measurement data
  - **Edge List Log**: Opens an existing or new edgelist log for storing each object's centroid and vertex X,Y-coordinate data in an image
- Log to a text file or to Microsoft Excel using DDE (Dynamic Data Exchange)

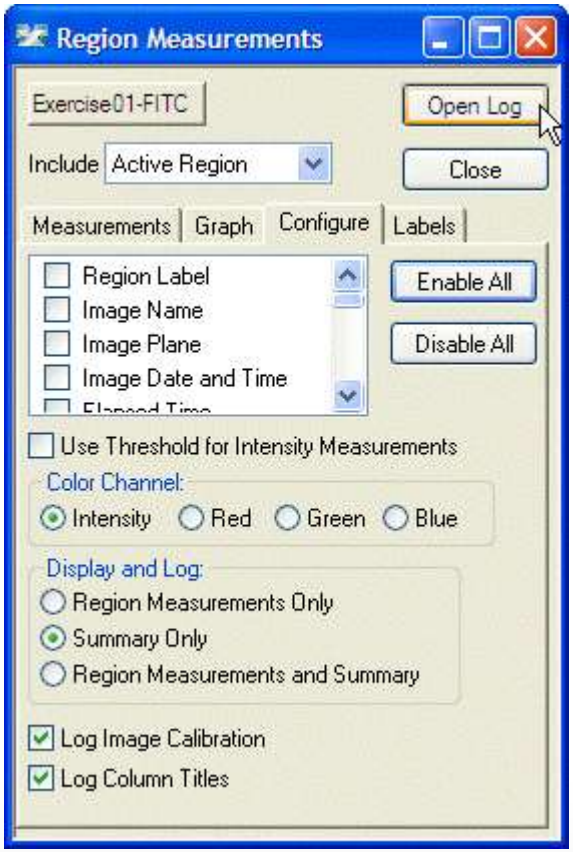
Opening and closing logs

- Log menu
  - Open
  - Close
  - Pause / Resume (useful in journals)



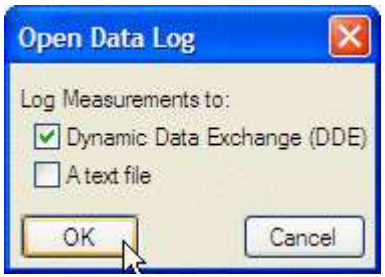
Opening and closing logs

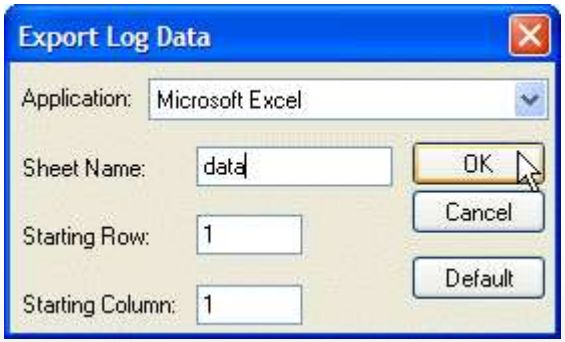
- Log menu
  - Open
  - Close
  - Pause / Resume (useful in journals)
- Specific measurement dialogs
  - “Open Log” button turns into “Log Data”



Opening and closing logs

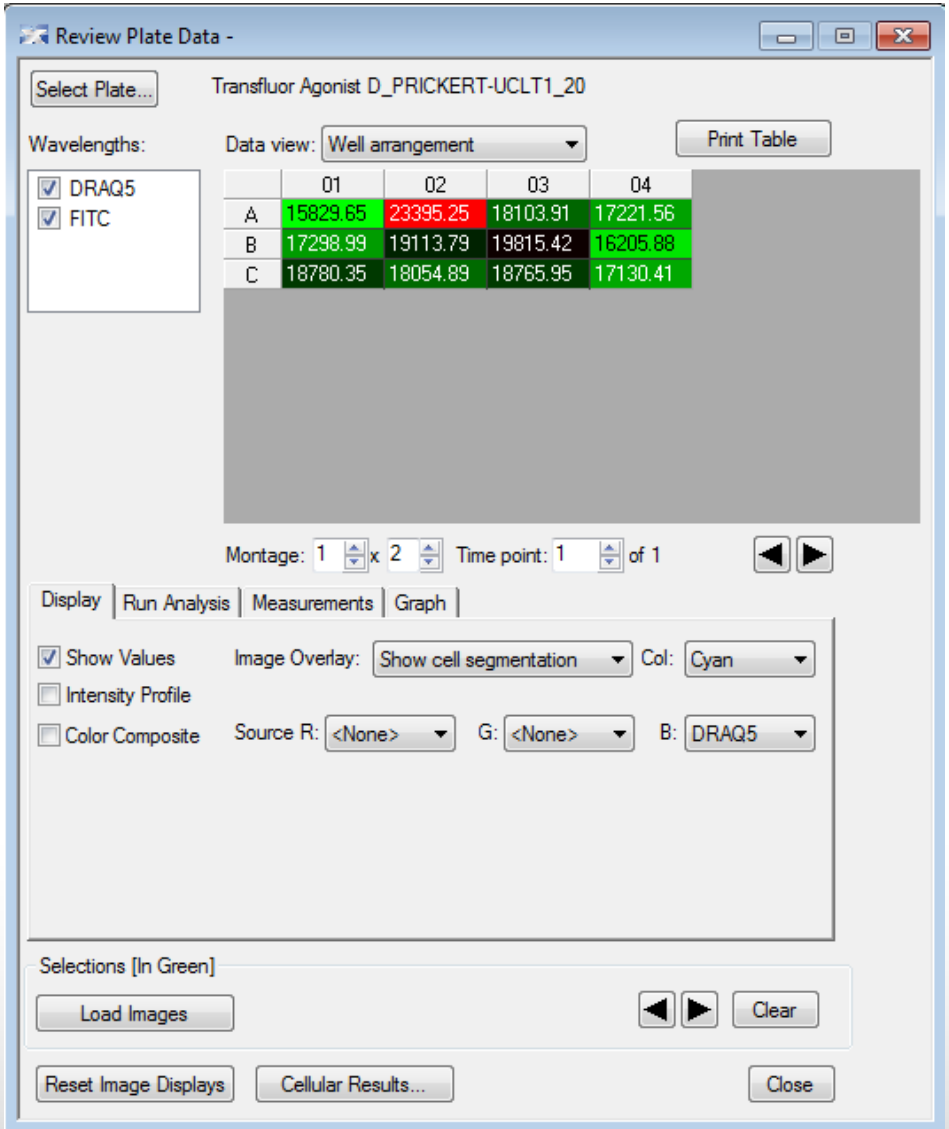
- Log menu
  - Open
  - Close
  - Pause / Resume (useful in journals)
- Specific measurement dialogs
  - “Open Log” button turns into “Log Data”
- For MS Excel, select Dynamic Data Exchange
  - Specify sheet name
  - If sheet not open, new sheet will be created in currently open workbook
  - If no workbook open, new one will be created



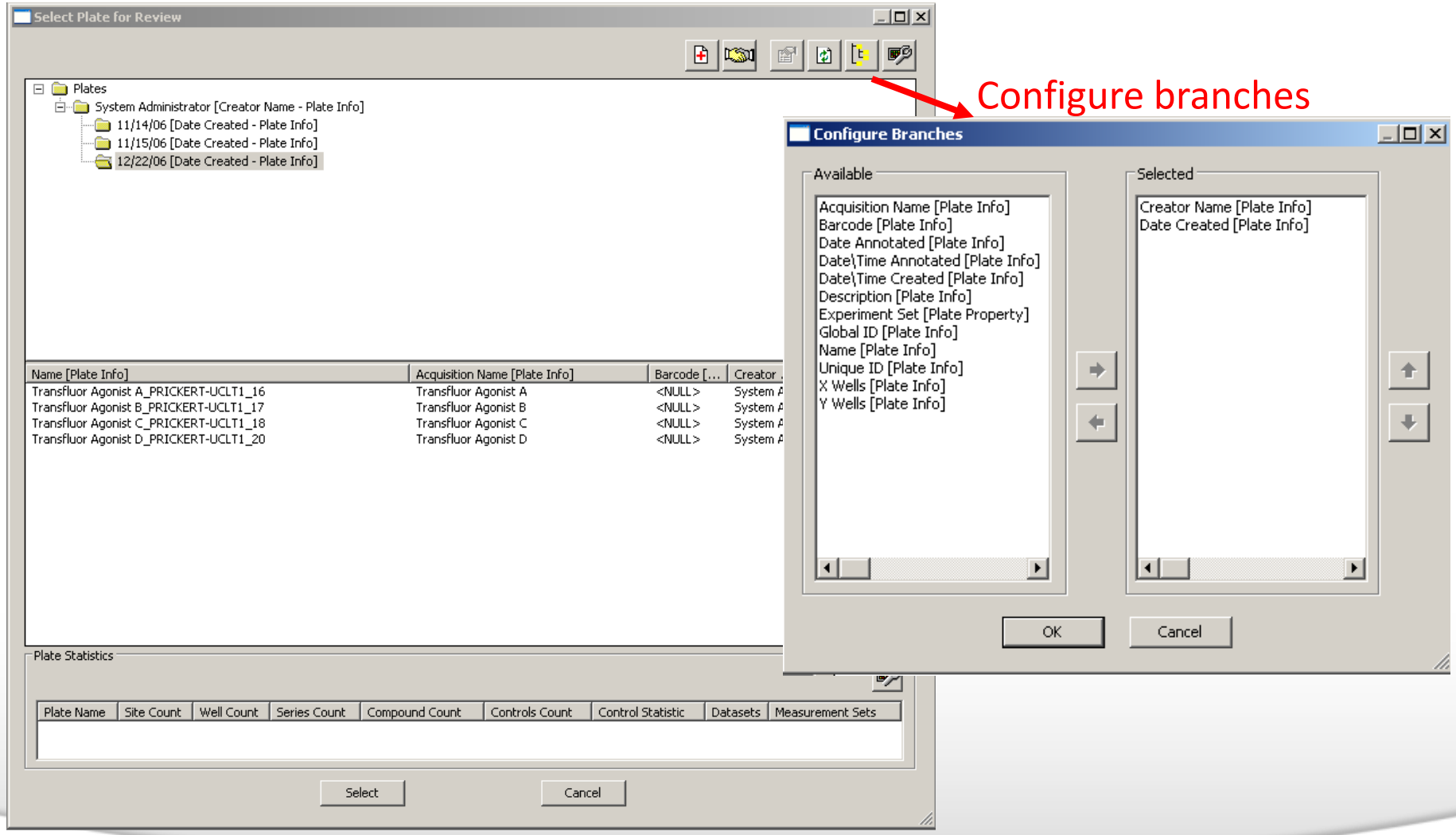


Screening > Review Plate Data

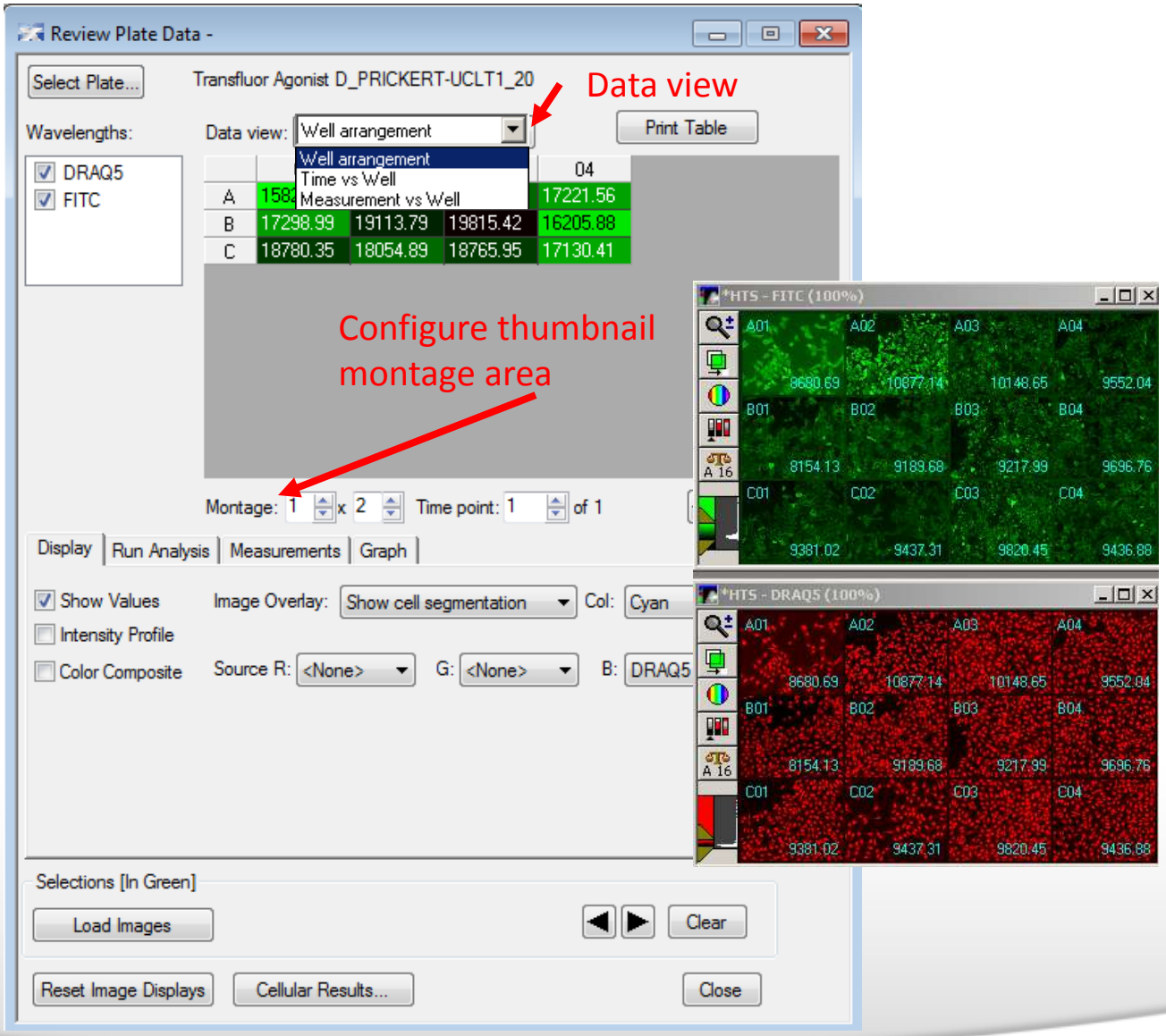
Select plate for review



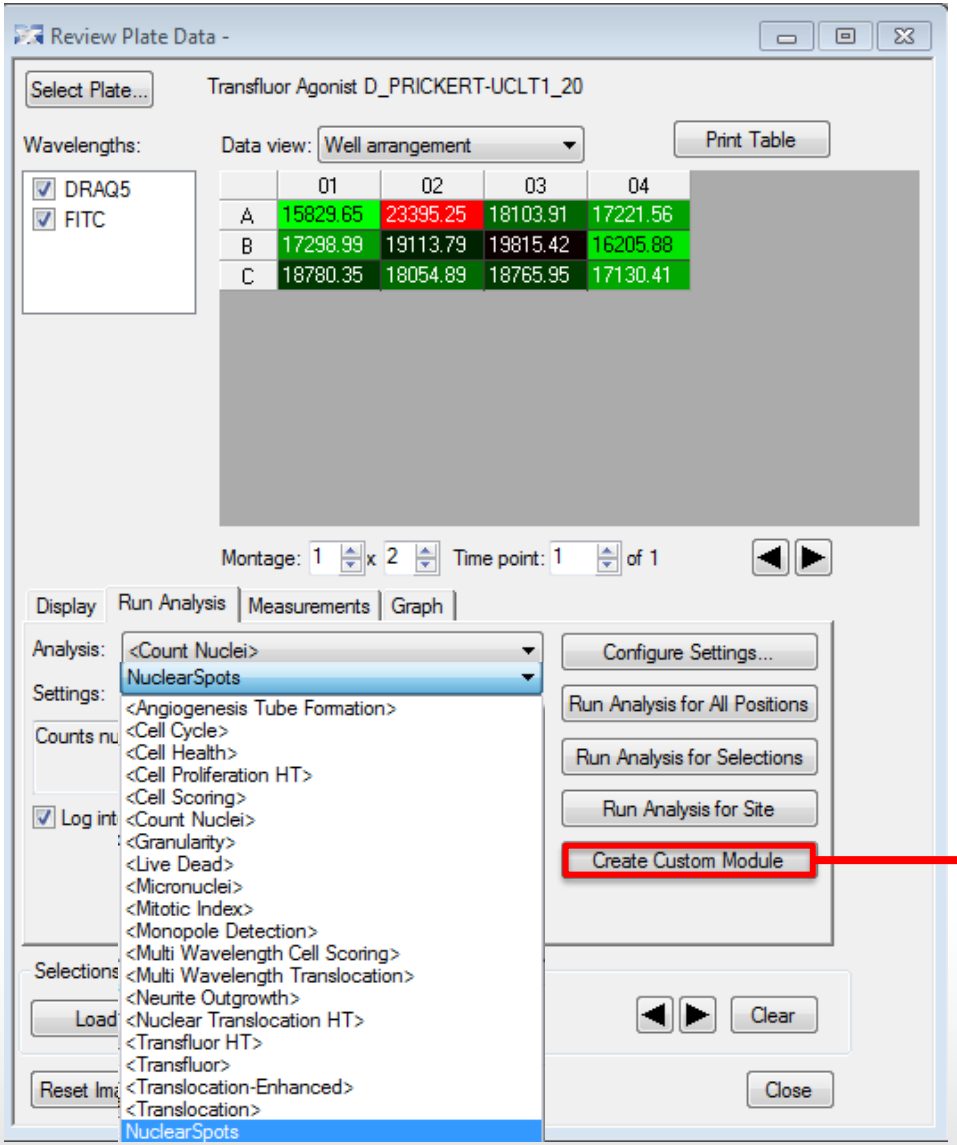
Select plate for review



Review Plate Data: Display Tab



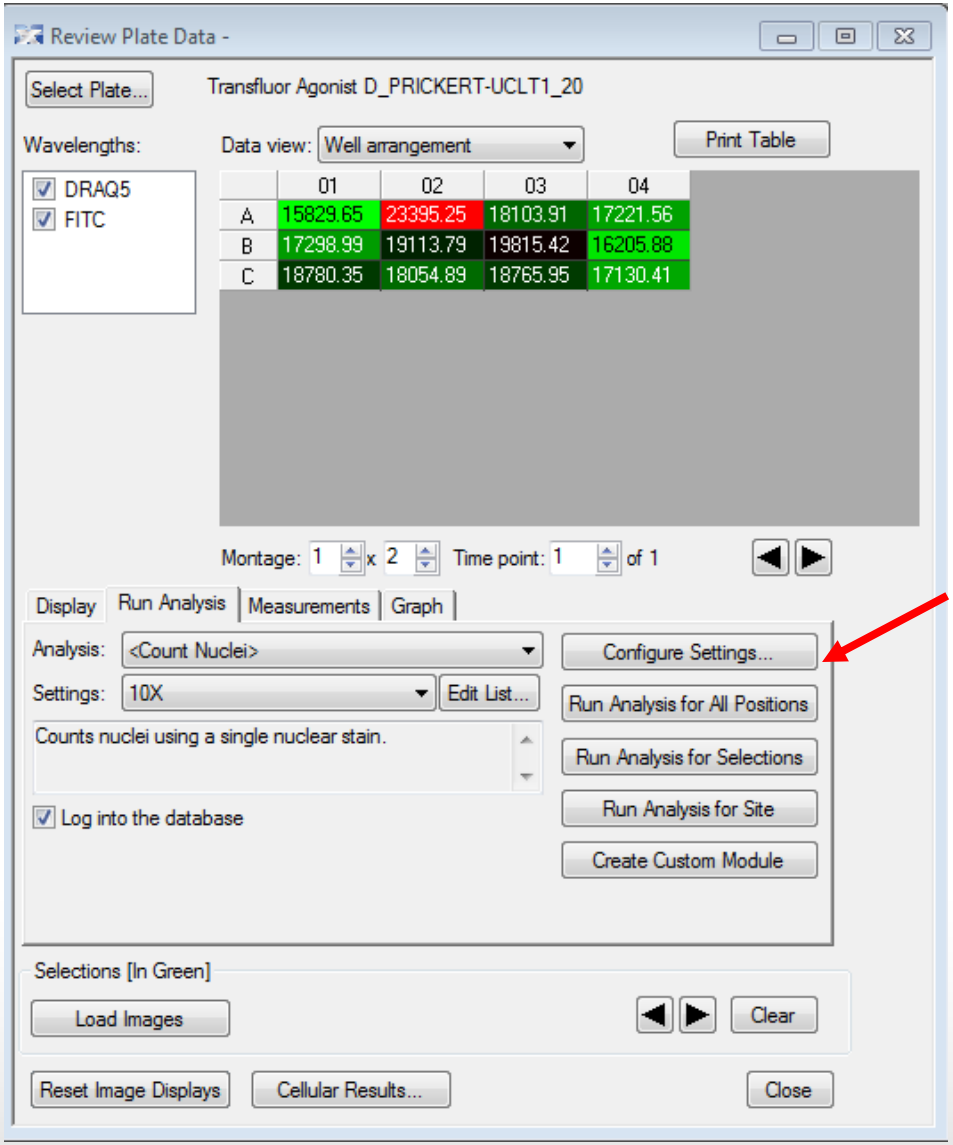
Review Plate Data: Run Analysis Tab



Create Custom Module appears if you have the Custom Module Editor option on key.

Options missing "<>" are custom assays.

Review Plate Data: Run Analysis Tab

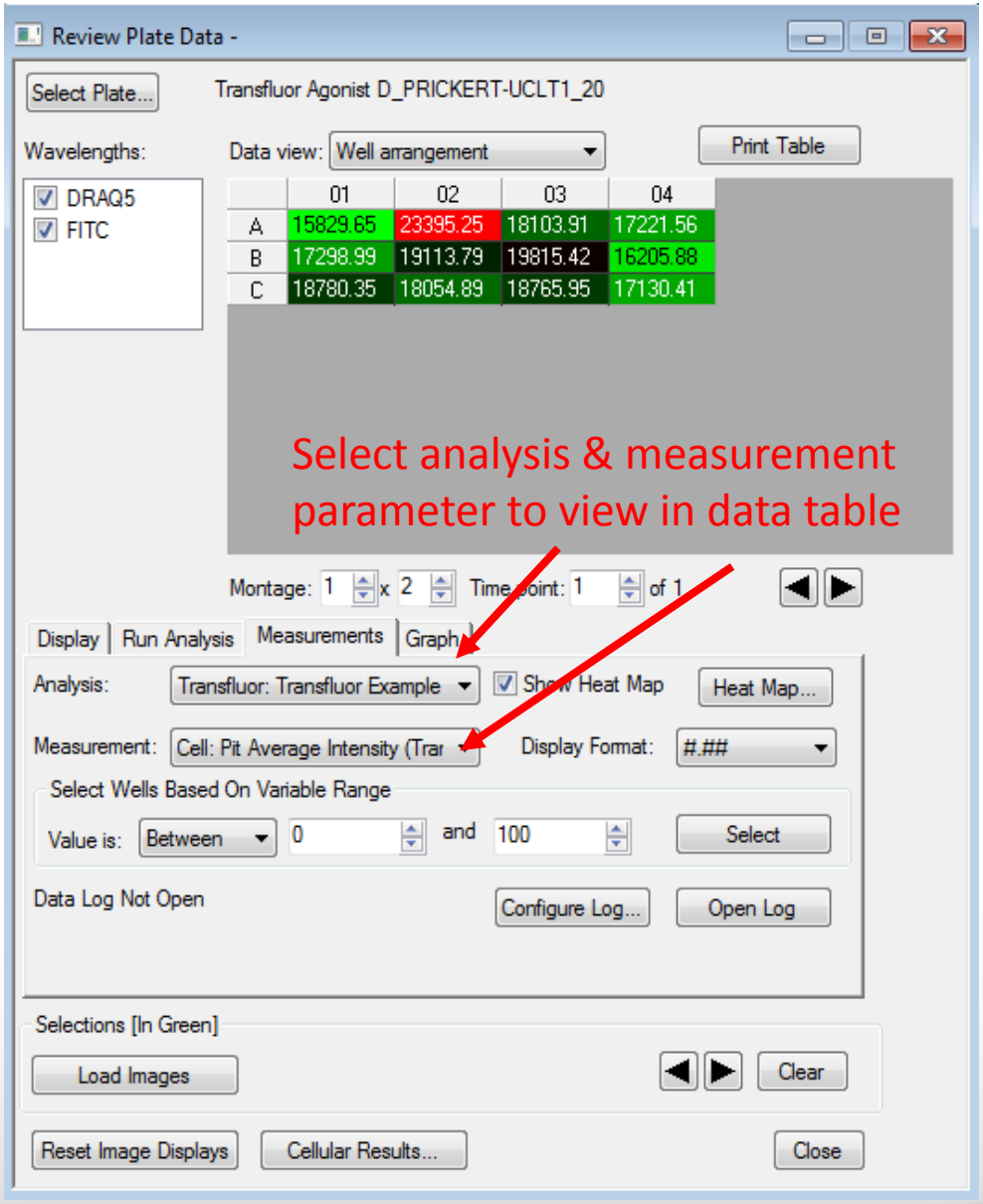


Configure module settings

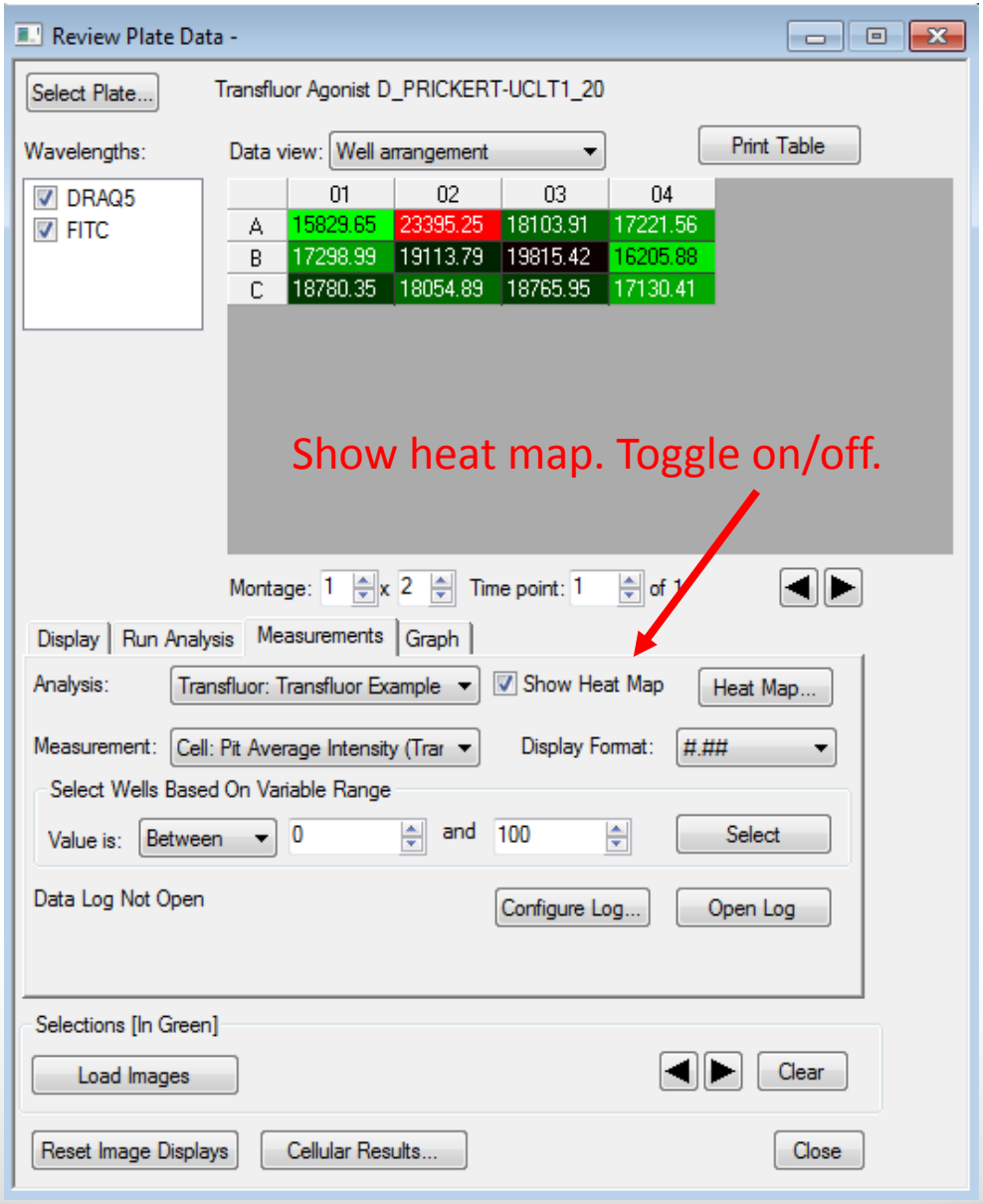
Run analysis for all positions, a subset of marked selections, or current image displayed.

Right click on wells to mark as selection. Turn off heat map to see marked selections (in green).

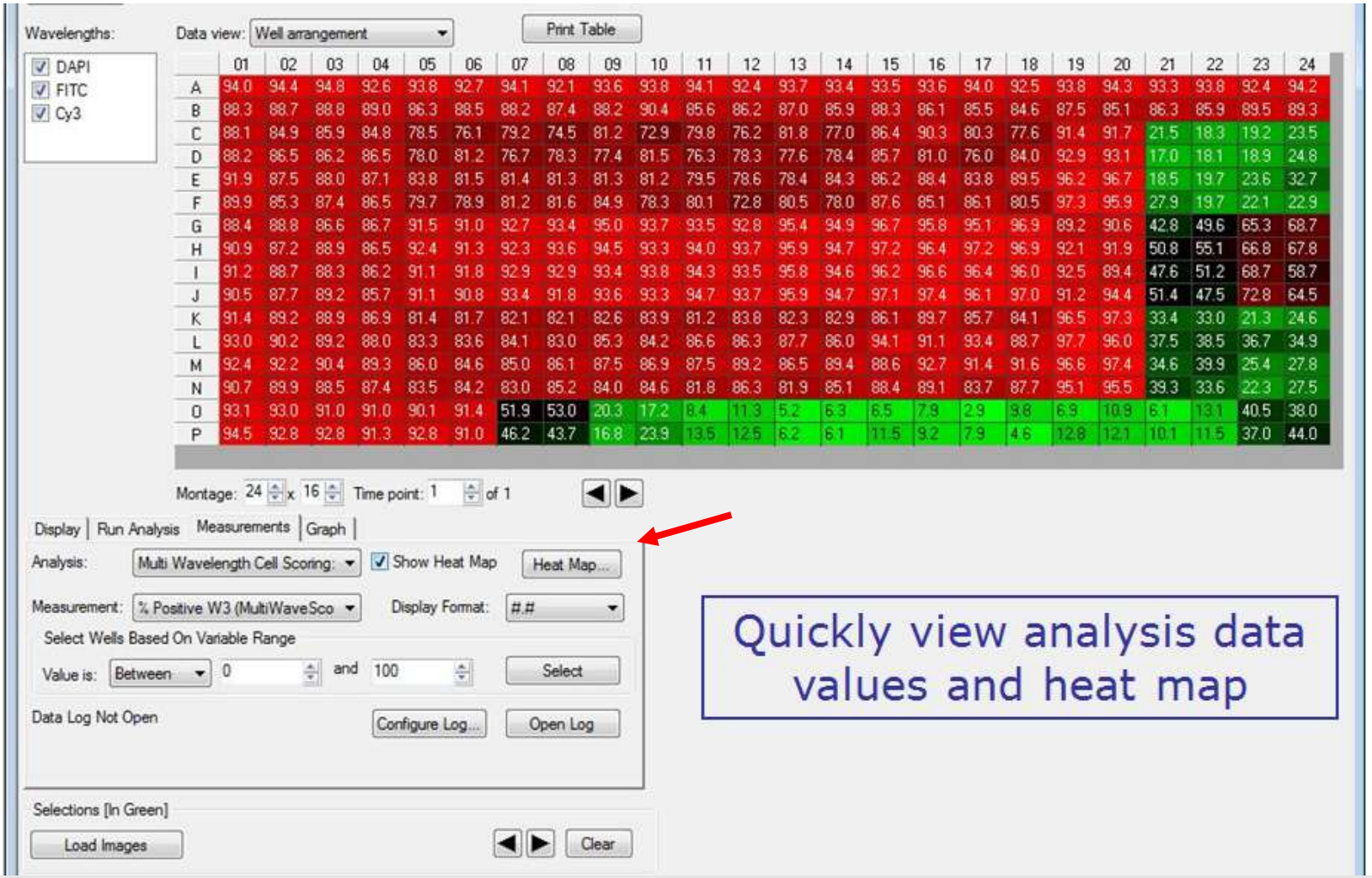
Review Plate Data: Measurements Tab



Review Plate Data: Measurements Tab



Review Analysis Results Within MetaXpress



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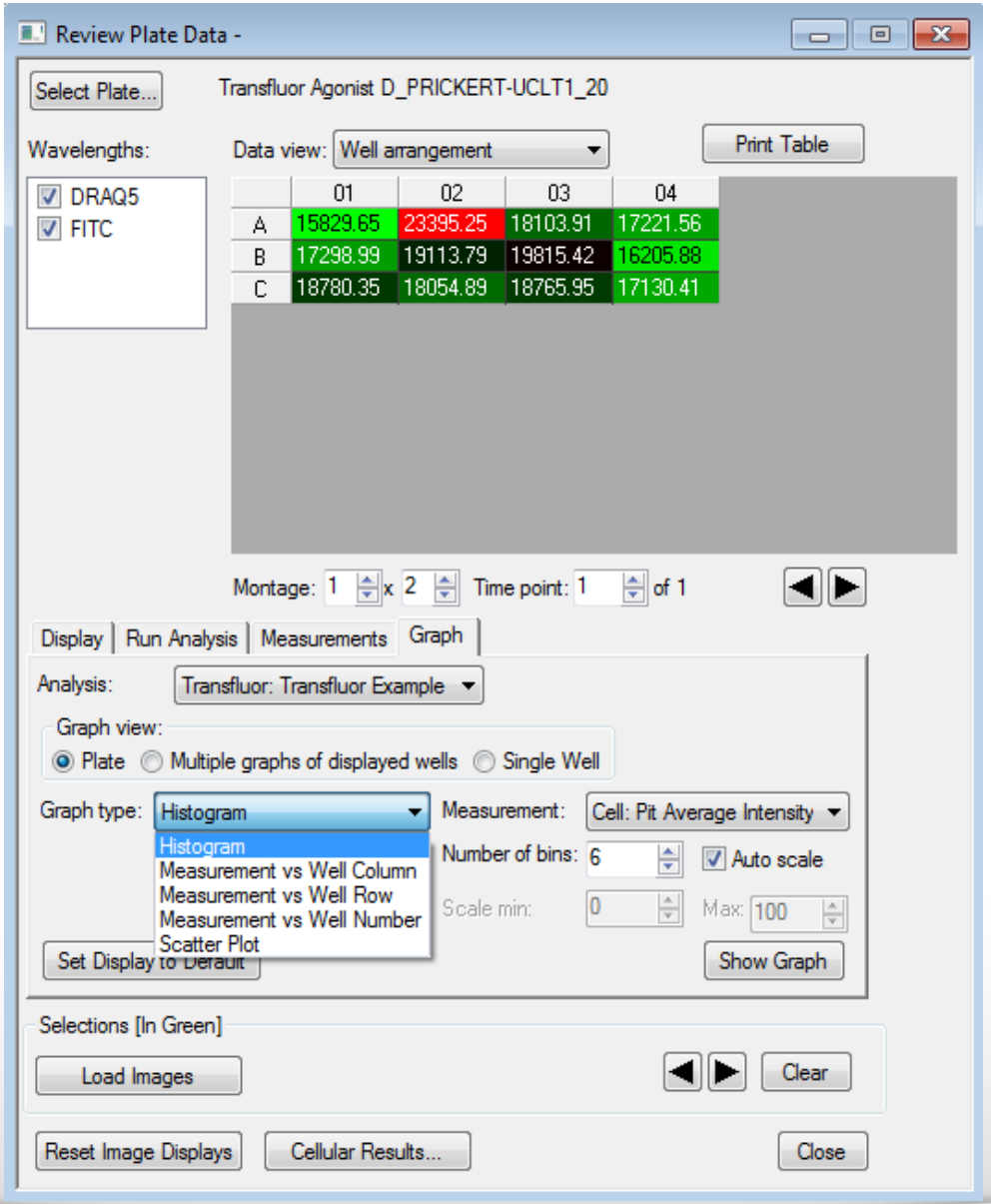
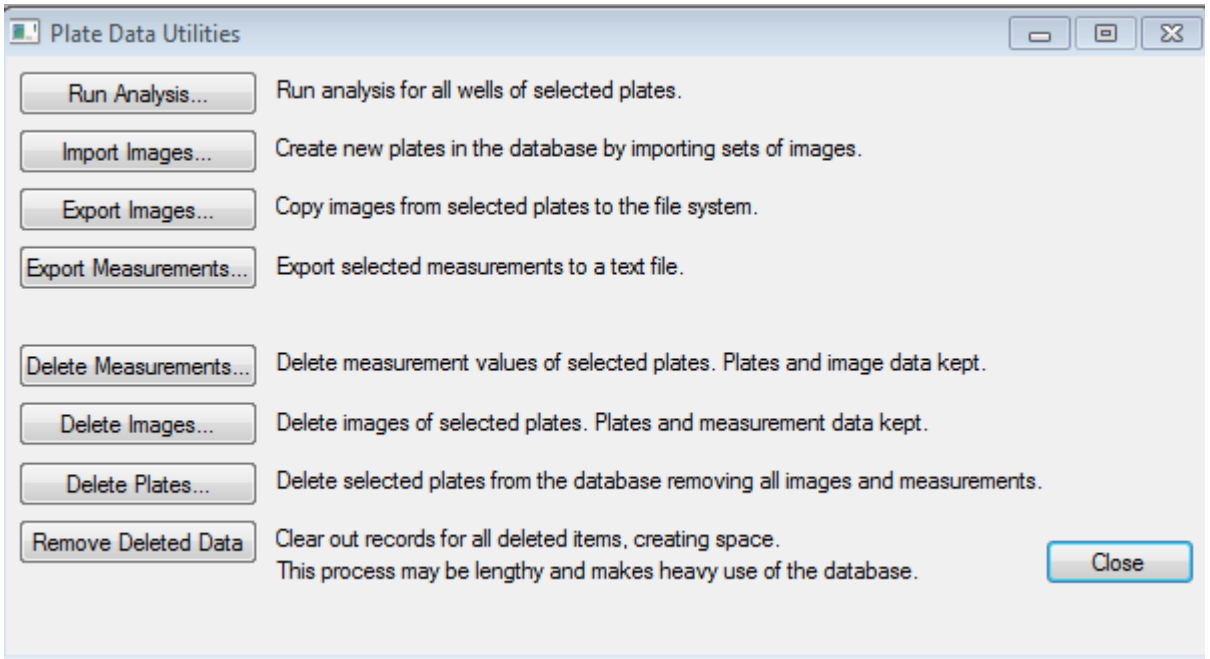
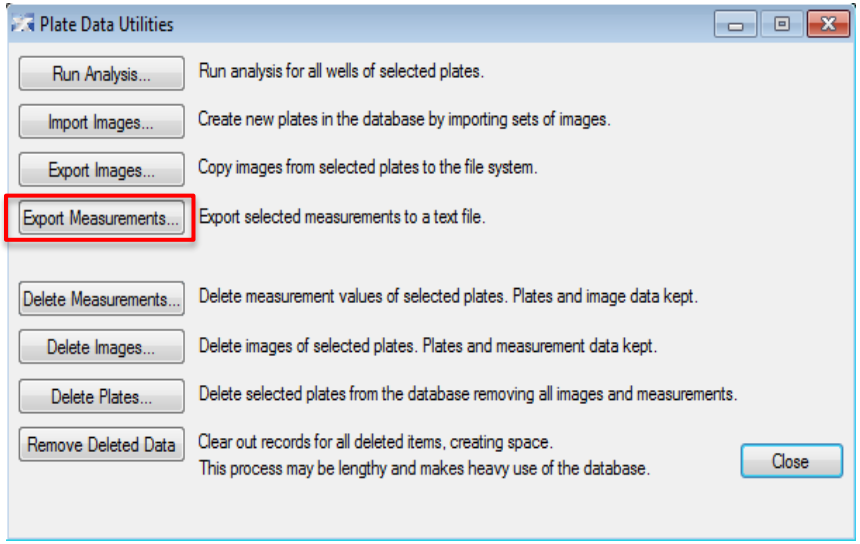
Review Plate Data: Graph Tab

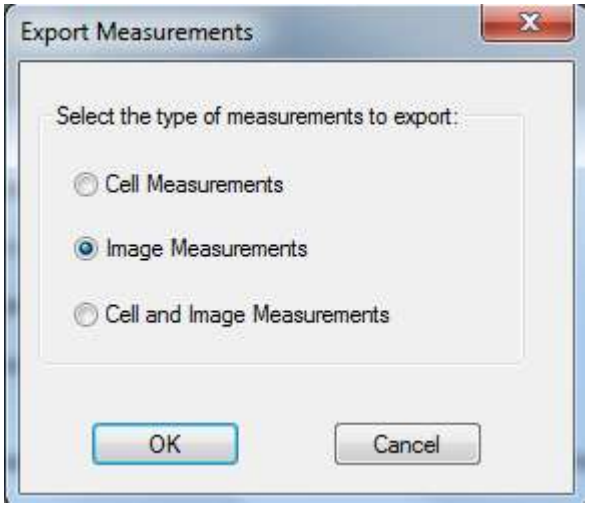


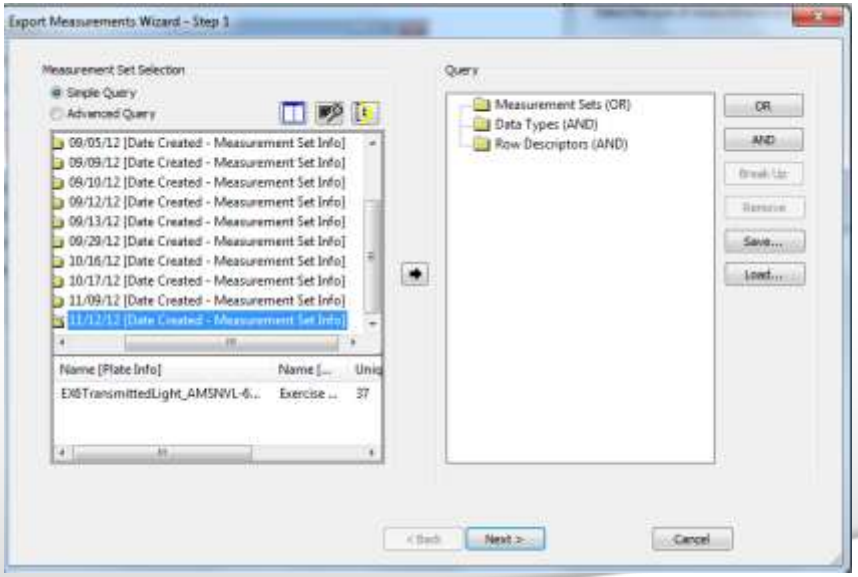
Screening > Plate Data Utilities



Screening > Plate Data Utilities > Export Measurements

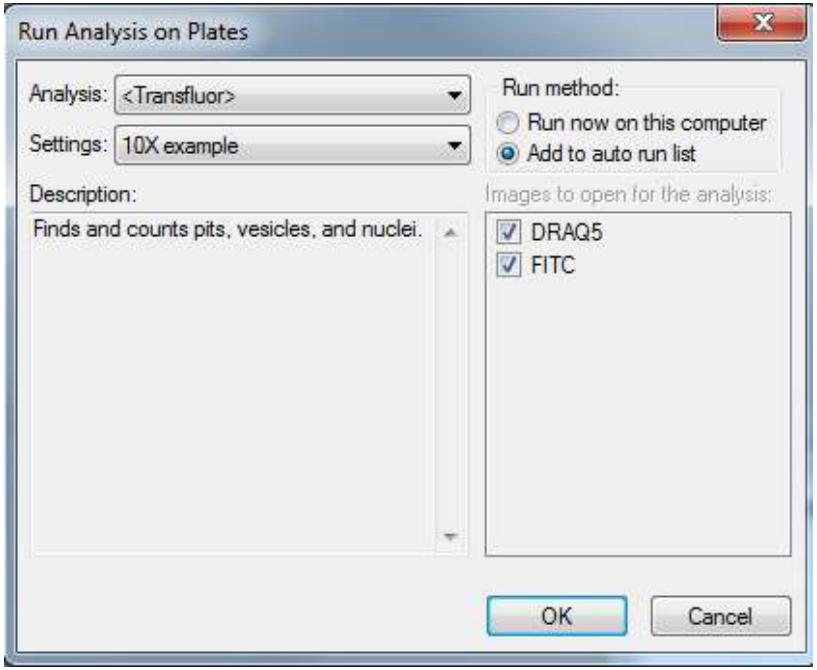


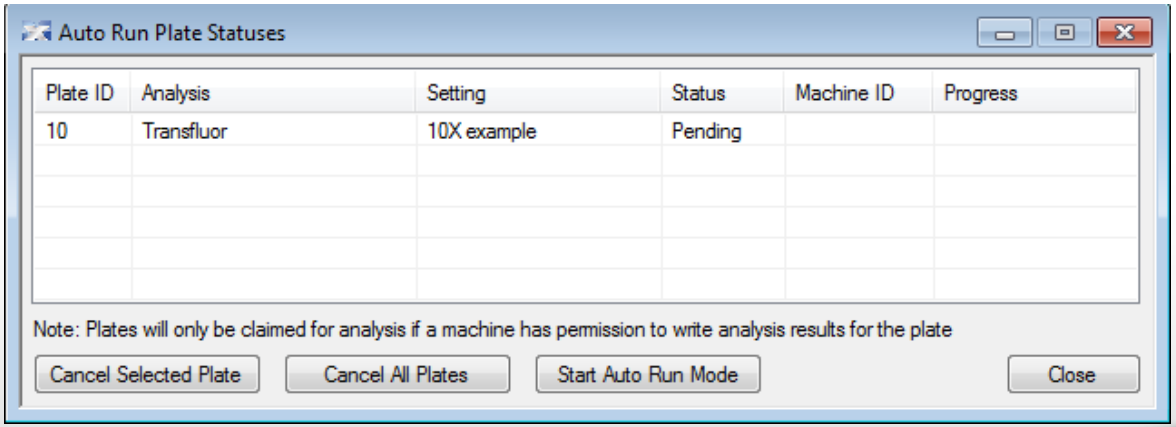




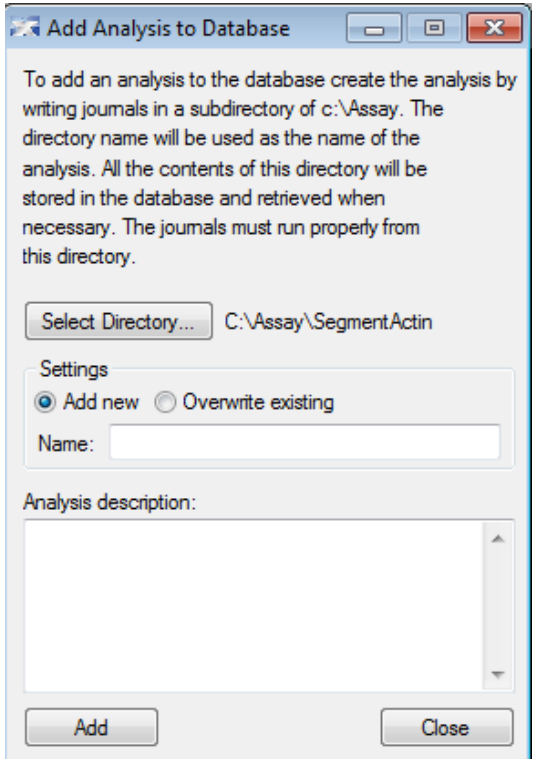
Molecular Devices

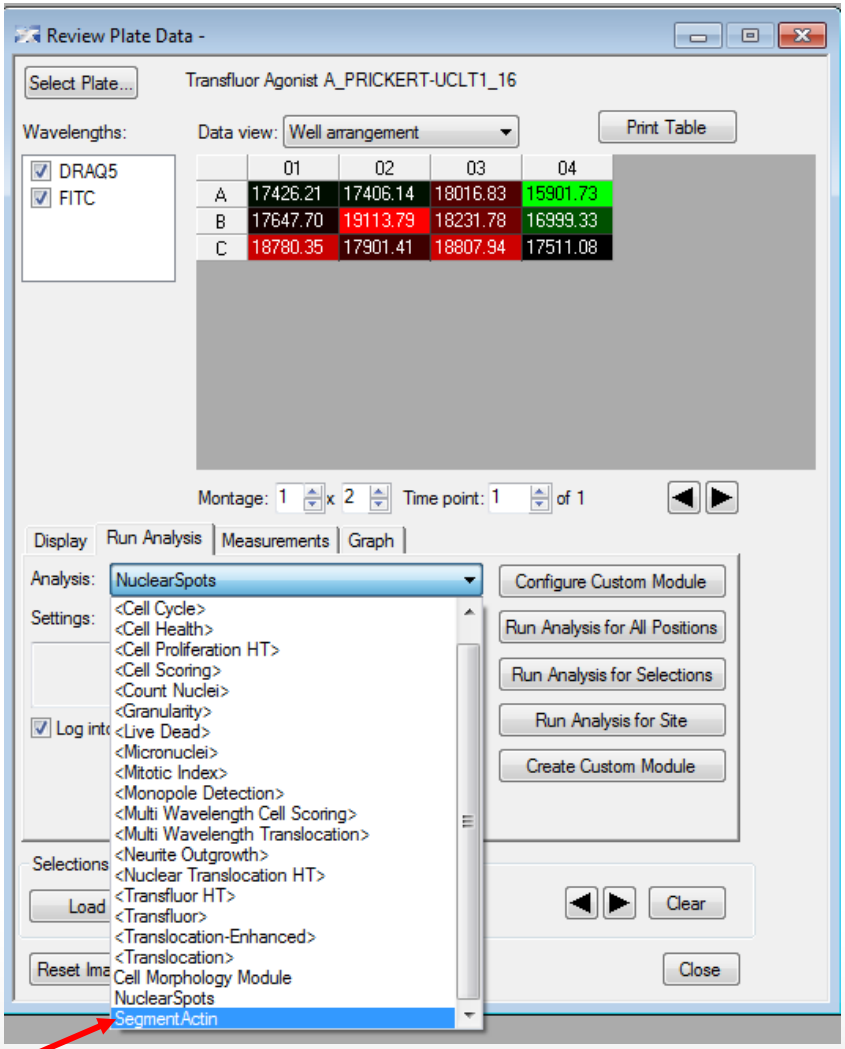
Plate Data Utilities: Run Analysis for Batch Analysis





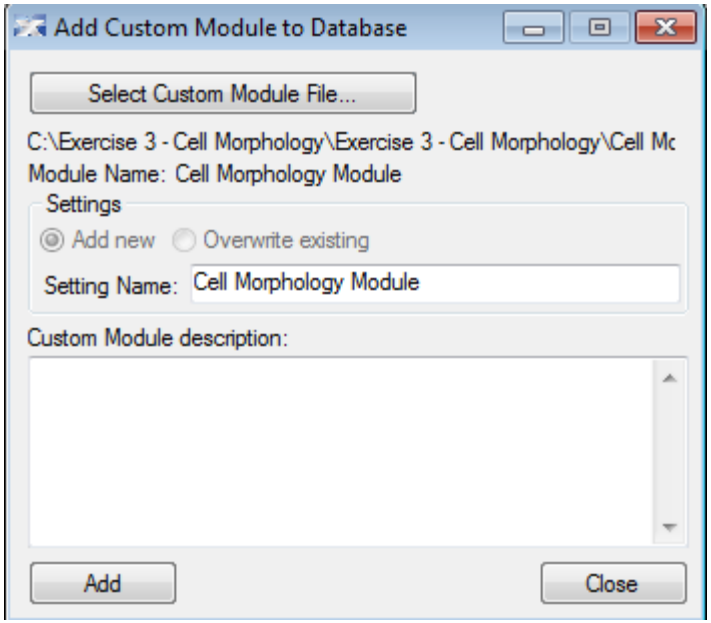
Add Analysis to Database: Custom Analyses

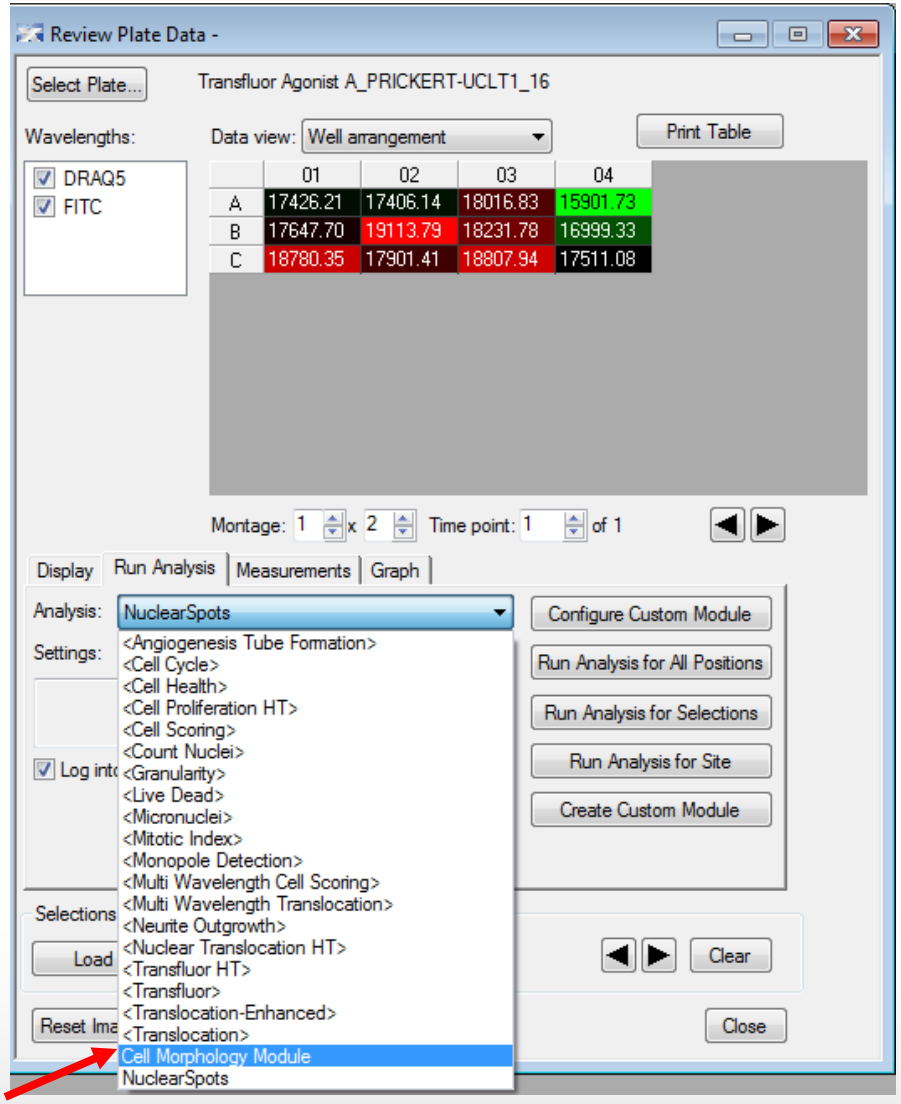




Assay will appear in Run Analysis tab. **Add Analysis to Database** is only used if you create your own custom analysis with a journal (macro).

Add Analysis to Database: Custom Module





Custom Module will appear in Run Analysis tab.

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