BIOQUANT® *life science*

Cell Counting Protocol

A Sampling Area is defined at low magnification.
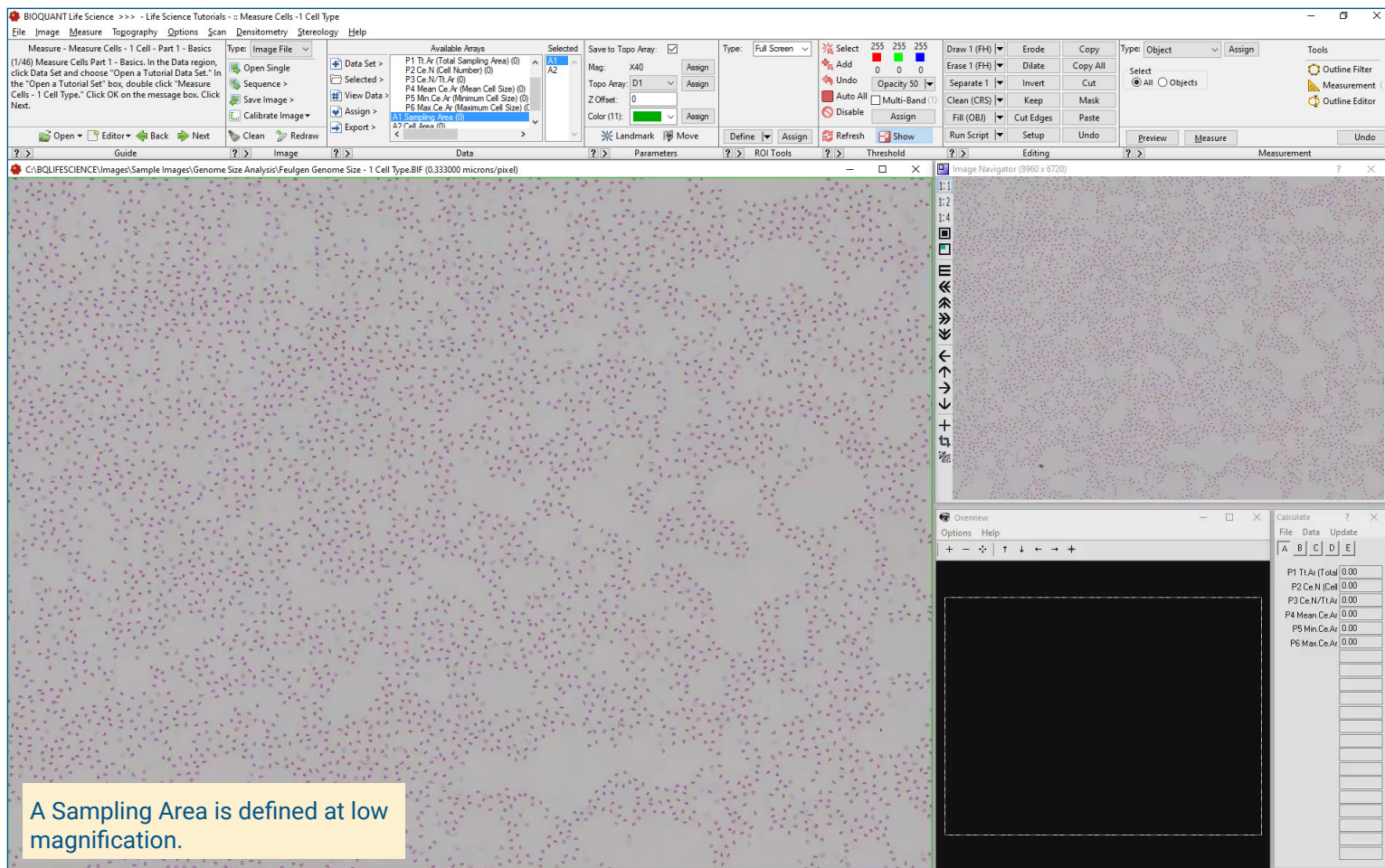
Image the Section

Digital Scan Up to 4 GB:

- Scans can be generated manually by BIOQUANT Life Science, automatically by BIOQUANT SCAN, or via a third party slide scanner.

- In BIOQUANT, zoom out so the entire Sampling Area fits in one field of view.

Live Image from Microscope with Camera and tracking device:

- Use a low objective like 4X or 2X to display a live image of the Sampling Area to be counted in the BIOQUANT Image window.

- The Sampling Area does not need to fit within a single field of view.

Define Sampling Area

A Sampling area defines a region at low power on the section within which cells are measured at high power.

Irregular Tool

Create an irregular Sampling Areas that matches biological borders.

Rectangle Tool

Create a rectangular Sampling Area with known micron dimensions.

Measure the Sampling Area

Using the Measure Object tool, click the Measure button to automatically measure the size of Sampling Area.

- Only cells within the Sampling Area will be measured.

- The Sampling Area is used to determine the numerical density of the cells.

- At higher magnification, the Sampling Area automatically redraws as you pan and zoom the image at higher magnifications.

- BIOQUANT ensures that all subsequent measurements are bounded by the Sampling Area.

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Measure Cells is used to measure cells within the Sampling Area.
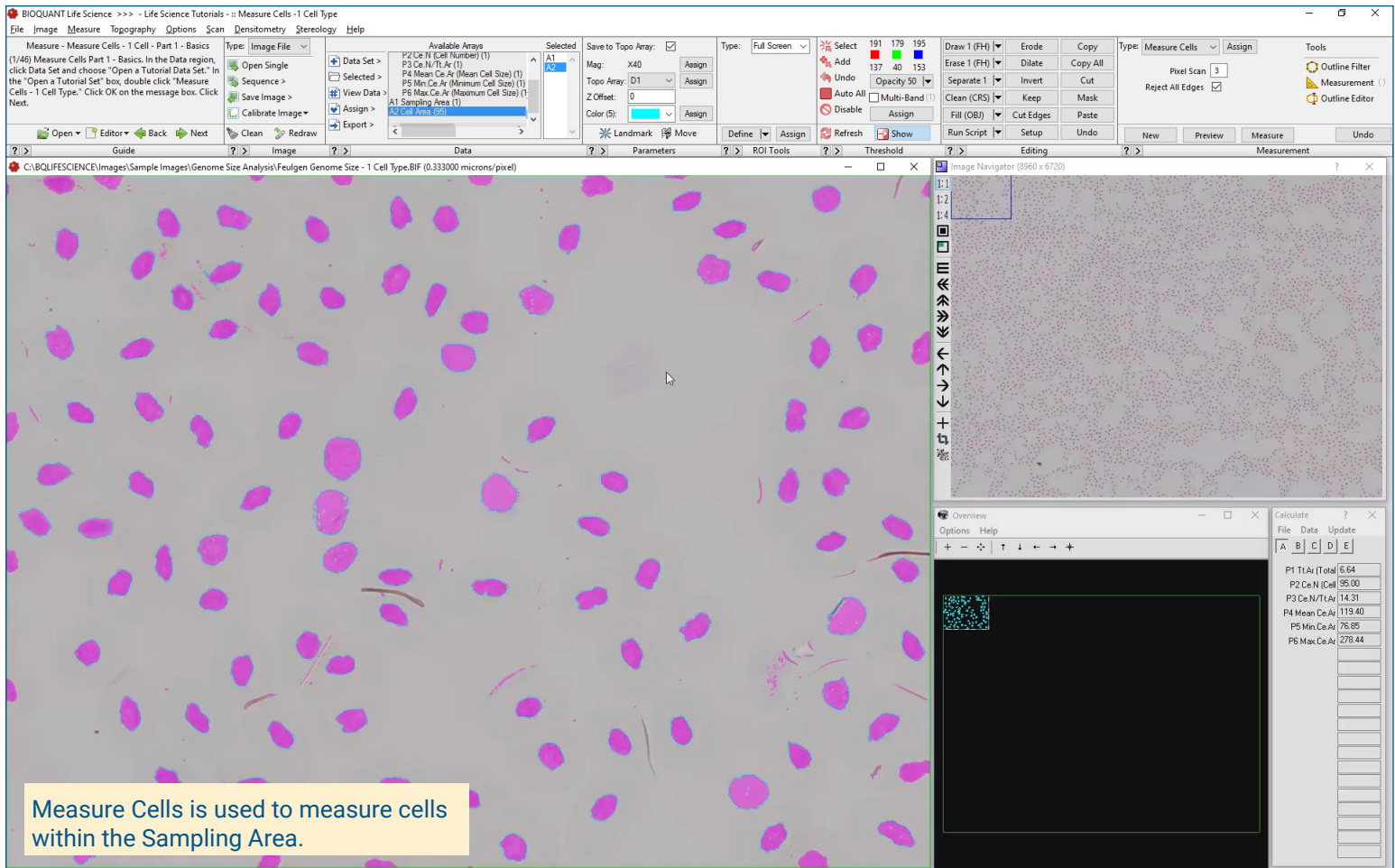
Zoom In or Change Objective

Digital Scan in Large Image Navigator:

- Zoom in to higher magnification.
- Pan to the upper left corner of the Sampling Area. Auto ROI always keeps you within the Sampling Area.

Live Image with Microscope:

- Change to a higher objective
- Move to the upper left corner of the Sampling Area.
- The Sampling Area tracing redraws on the live image.

Use Measure Cells

Click Preview to automatically:

- Threshold and preview outline the cells.
- Cells already measured on previous, overlapping fields of view are not preview outlined.
- Cells cut by the region of interest are not preview outlined.

Use Editing tools to add, remove, dilate, erode, separate threshold.

Click Measure to record data.

Move to the next field and repeat for all fields in the Sampling Area.

Computed Data

As data are collected, BIOQUANT automatically computes:

- Cell Number
- Cell Size
- Cell Number per Unit Area
- Integrated Optical Density per Cell. (Used for Genome Size Calculation)
- Genome Size (in Picograms)
- Min Genome Size
- Max Genome Size
- Mean Genome Size

This is a sample protocol. It is easily modified for different animals, tissues, embedding methods, and stains.

All parameters can be renamed. New calculations can be added. Both live imaging and scans are supported.

Measure at the magnification that is best for your histology. Find out more: www.bioquant.com/lifescience