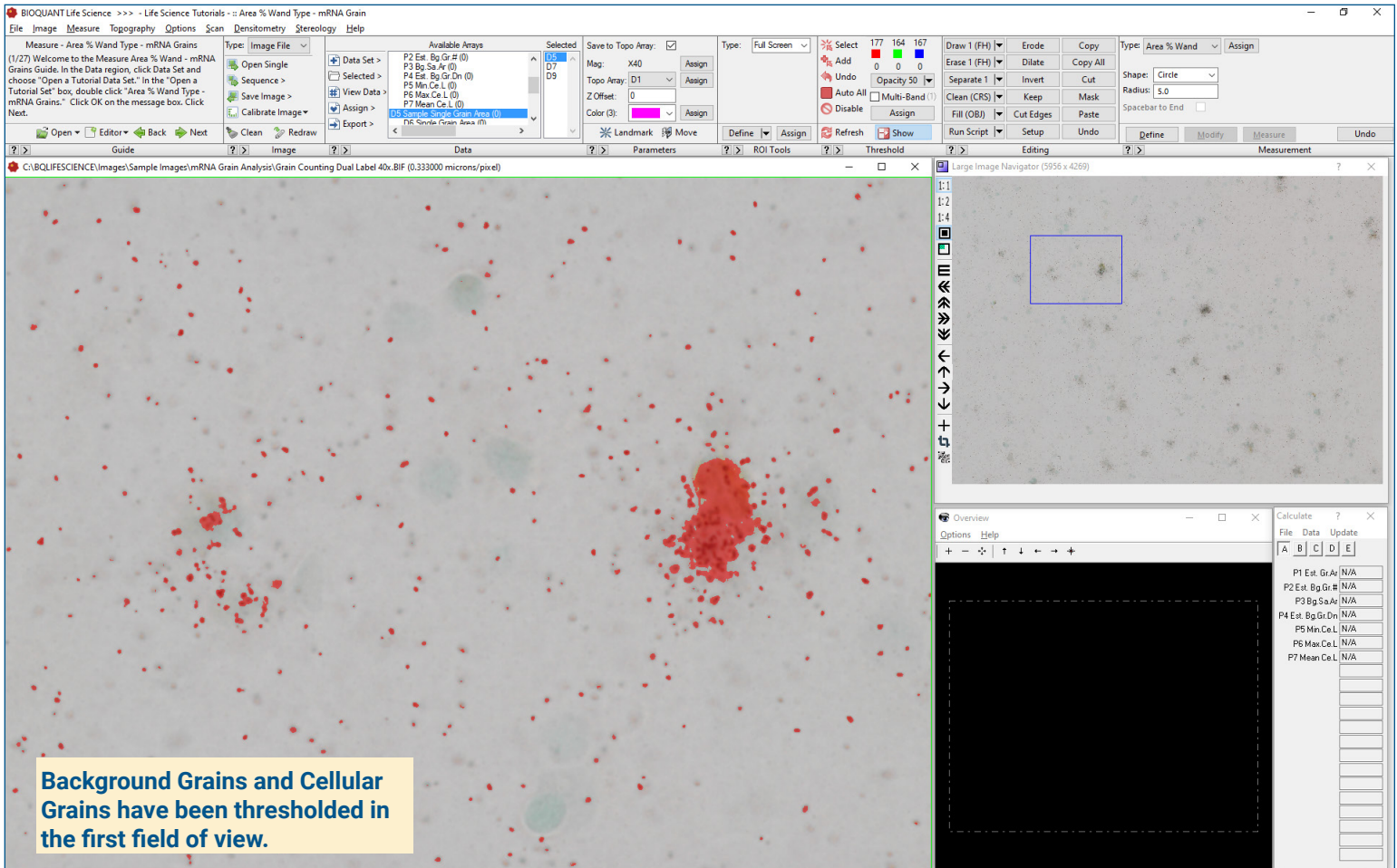


## BIOQUANT Cellular mRNA Protocol



### Get Image

Up to **4 GB Scan** of Section:

- 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.

### Measuring Average Grain Size

Find the average size of one grain to help estimate the number of grains for total number of grains, total grains in the background, total grains on cells.

- Click **Measure Objects** on random grains.
- BIOQUANT calculates the average grain size.

Define the sample area for background grains.

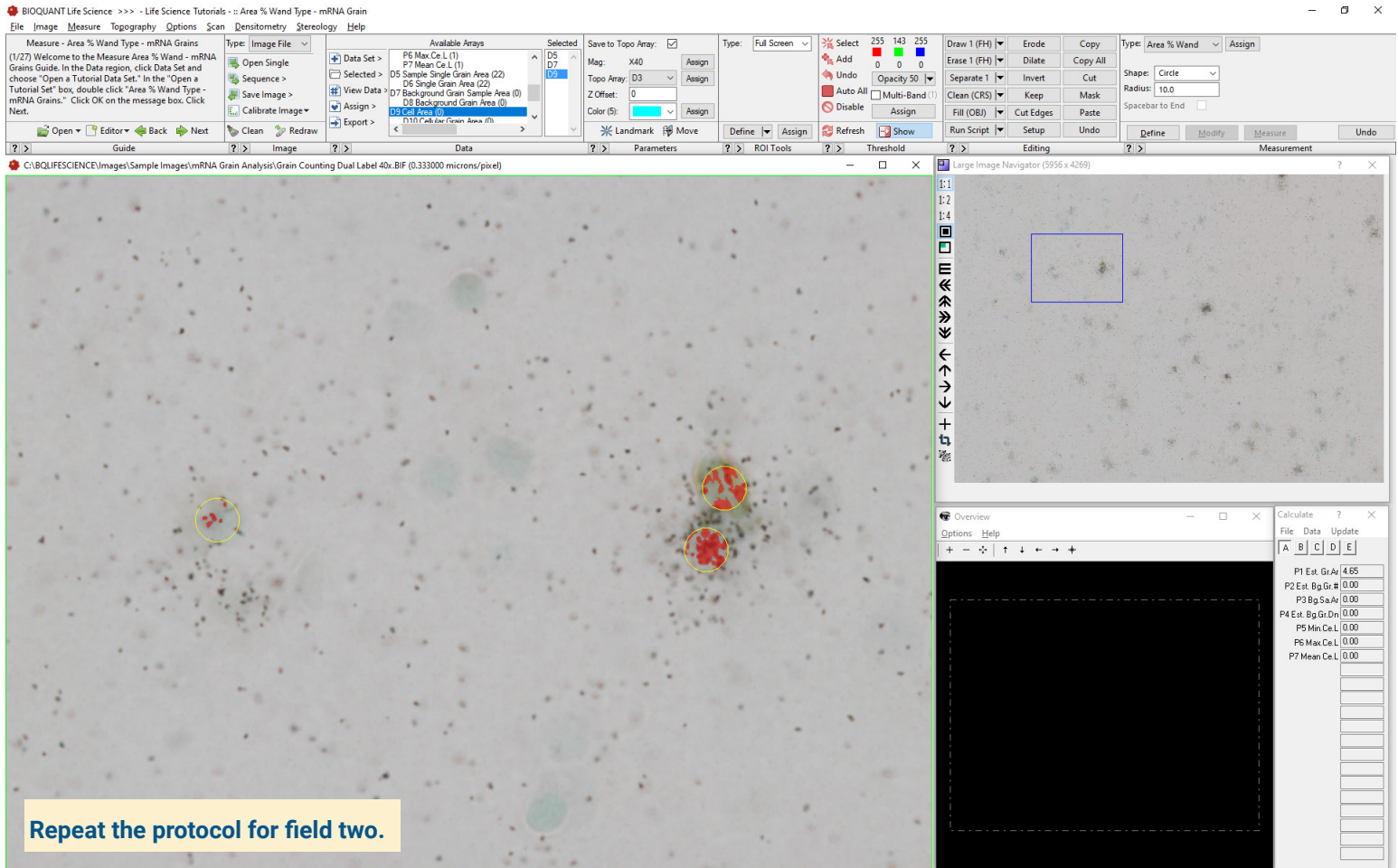
- Using the Region of Interest tool, define the sampling area around background grains.
- BIOQUANT **automatically** estimates the number of background grains.

### Measure Cellular mRNA.

Using either standardized circular regions or free-drawn boundaries, BIOQUANT can analyze the degree of grain labeling in a cell population.

- Threshold** the grains.
- Using the **Density Wand**, click on each cell.
- BIOQUANT limits the grain thresholding to only defined cells.
- BIOQUANT **automatically** estimates the number of grains within each cell. The % grains per cell is automatically calculated.

## BIOQUANT Cellular mRNA Protocol



### Move to the Next Field

Digital Scan in **Large Image Navigator**:

- Move the Pan box to the next, slightly overlapping field in the Sampling Area to be measured.

**Live Image** with Microscope:

- Move the stage to the next, slightly overlapping field in the Sampling Area to be measured.

### Repeat for this Field

Total grains and Cellular Grain data are collected for each field of view.

BIOQUANT keeps track of previously measured objects, eliminating guesswork from data collection.

### Flexibility in Data Management

Export immediately or wait for the entire project to be completed.

- Mean Grain Size
- Estimated Background Grain Density
- Estimated Background Grain Number
- % Cellular Grain Area
- Estimated Cellular Grain Number
- Estimated Cellular Grain Density
- Cellular Grain Density Ratio

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](http://www.bioquant.com/lifescience)