Protocol Count Settings

- **Min and Max Diameter:** Defines size range of objects counted.

- **Roundness:** Identifies cells counted based on shape. The higher the roundness, the more perfectly round and completely outlined a cell must be to be counted. Decrease the roundness value to count more irregular cells.

- **Threshold:** Screens each counted cell against an intensity criteria set in the protocol.

  AO/PI: Increase threshold to exclude lower fluorescing cells.
  Trypan Blue / Erythrosin B: Increase threshold to exclude lighter cells.

- **Small Cell Mode:** Improves brightfield and Trypan Blue counts near the detection limit.

- **Irregular Cell Mode:** Improves counts of cells that are elliptical or irregular in shape.

Best Practices

1. Ensure that the sample is homogeneous by taking steps to minimize cell clumping.

2. Mix the sample immediately before loading.

3. Clean both sample surfaces using a dry laboratory wipe.

4. If sample loading issues occur or if a sample dries on the surfaces, clean with 70% ethanol. Lower the arm and load 15 µL of 70% ethanol or 10% bleach, flushing through the entire alignment groove into the sample chamber. Wait 10 - 15 seconds, then firmly wipe both surfaces to complete cleaning.

Technical Support and Service

Visit denovix.com for helpful videos, technical notes and troubleshooting tips. Contact DeNovix (US) or your local distributor for additional assistance.

Quick Start Video   Request Support   Tech Notes

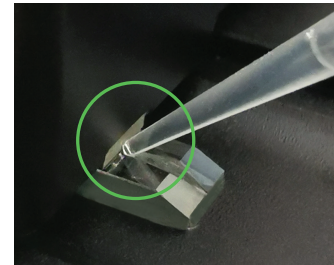*Visit **denovix.com/sustainability** for information on recycling packaging materials.*

Read This Guide Before You Start!

Initialization on Start-Up

Before powering on the instrument, ensure that all packing materials are removed and nothing is between the sample surfaces. Switch on the instrument. Follow the onscreen instructions. **After** cleaning, press **OK** to complete the initialization. **Note:** Do not charge phones or tablets using the USB ports.

Loading

Position the pipette at 45°. Slide the pipette tip along the alignment groove until it rests against the top surface.

Cleaning

Use a dry, folded lab wipe. Wipe **both** the upper and lower sample surfaces with one or two firm wipes. Wipe in one direction, not back and forth.

Select an Application

Pre-installed EasyApps™ software includes popular applications for cell counts and viability assessment. The onboard User Guide explains other applications available, such as yeast counts or GFP for transfection studies.

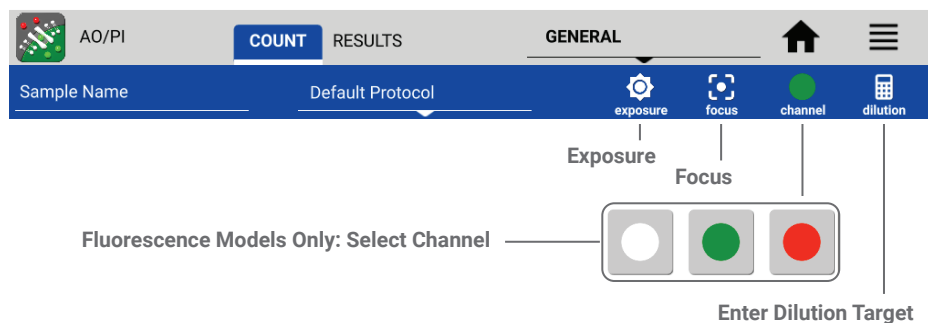**Brightfield:** Tissue culture total cell counts

Trypan Blue: Tissue culture total cell counts and viability

AO/PI: Fluorescence counts and viability assessment of tissue culture or primary cell samples, especially samples with debris present.
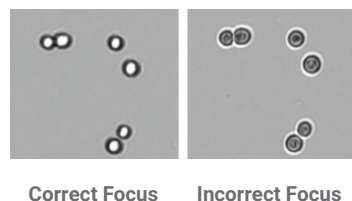
CELL COUNTING PROCEDURE

1 Load Cells

Load sample and allow cells to settle.

Exposure

Focus

Fluorescence Models Only: Select Channel

Enter Dilution Target
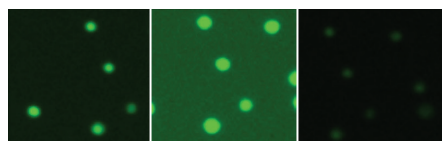
2 Focus

- **Manual:** Adjust focus using the up and down arrows. Live cells have a bright center and a sharp dark outline.

- **Auto:** Roughly focus cells, then press **Auto** button.

Correct Focus   **Incorrect Focus**

3 Exposure

Fluorescence

Use the channel selector to choose the green or red channel. Tap the exposure icon. Adjust the signal of each channel to be as bright as possible <u>without extending beyond the boundaries of the cell.</u>

Trypan Blue

- **Normal**: One-to-one mixture of 0.4% Trypan Blue assay and cell suspension.

- **Low**: One-to-one mixture of 0.2% Trypan Blue assay and cell suspension.

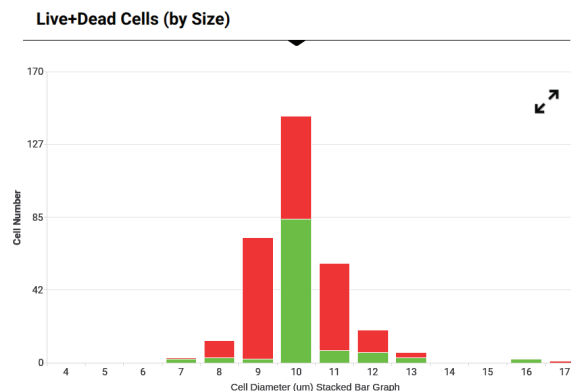**Correct Exposure**   **Over-Exposed**   **Under-Exposed**

4 Count

When satisfied with the live preview image, press the **Count** button. The CellDrop will capture images of all channels and calculate all results.

5 Optimize

Review result and optimize count settings if desired. Settings can be saved to a protocol. Adjust size gating using the onscreen sliders or the full screen histogram view. Result is saved when arm is lifted.

6 Graph

From the Results tab, select Graphs to view a selection of count, viability, size distribution and cluster graphs.

7 Export & Data Analysis

- Share or export cell count results, reports, screenshots and images.

- Export options include email, network printers, USB and network drives.

- Use the Settings app to configure Wi-Fi, network printers, network folders and email.

- Manage frequently used email addresses in the User Accounts app.