



fluidlab R-300

Troubleshooting – Cell Count & Viability

If you obtain results from your measurements that do not meet your expectations, it is advisable to check a few points. You can use the various functions of the fluidlab R-300 to assess the corresponding measurement.

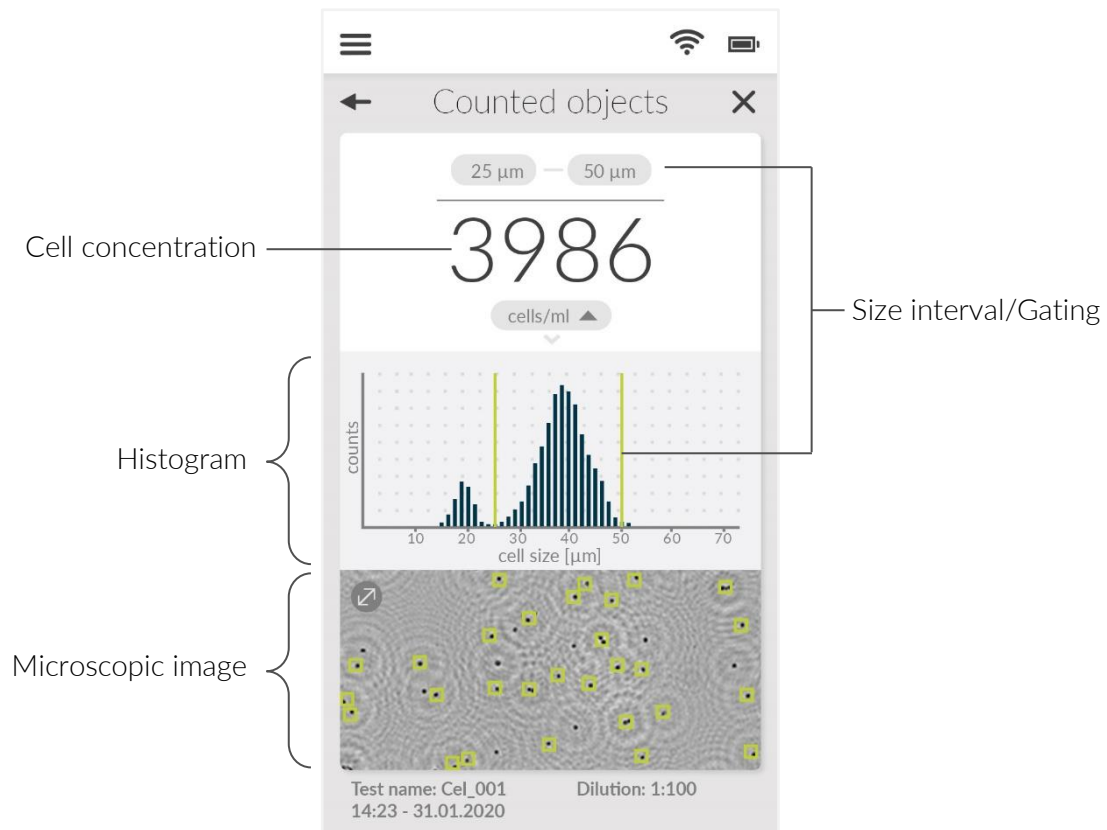


Figure 1.: The results screen provides important information about the quality of the measurement.

Viewing the histogram

1. Is the gating chosen correctly?

By moving the boundaries in the histogram, the size interval can be adjusted as required, e.g. to exclude debris or to consider only a specific cell population. It should be noted that only cells within the size interval are counted.

2. Is your sample contaminated?

Outliers in the histogram may indicate contamination of the sample or cell clumps. Thus, the histogram also contains valuable information for checking the quality of the cell culture.

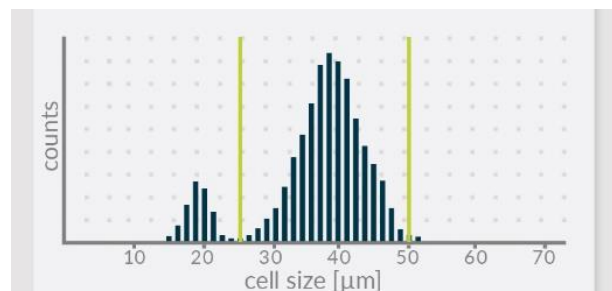


Figure 2.: Outliers in the histogram can indicate contaminations or cell clumps.

Viewing the microscope image

1. Are all recognizable objects boxed?

2. Is your sample sufficiently diluted?

Cell density can be assessed by checking the hologram. For optimal results, use dilutions with 10^4 to 10^7 cells/ml. If the concentration is too high, a warning message is displayed by the instrument.

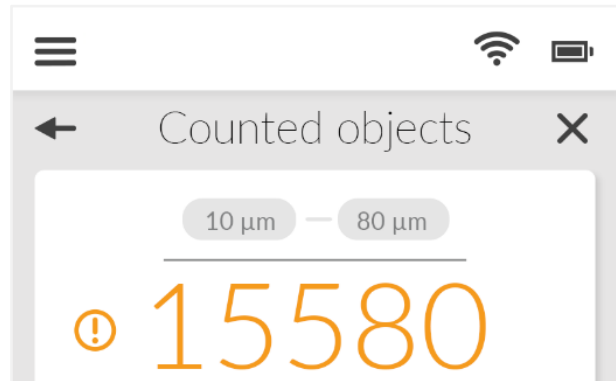


Abbildung 3.: Das Gerät zeigt eine Warnmeldung bei zu hoher Konzentration

3. Is there dirt or air bubbles on/in the acella?

If there are air bubbles, contaminations, fingerprints or similar on/in the acella, these can be detected in the microscope image. Air bubbles change the distribution of the cells in the sample carrier and thus falsify the measurement of the cell concentration. They can be removed by gently tapping the acella on a hard surface.

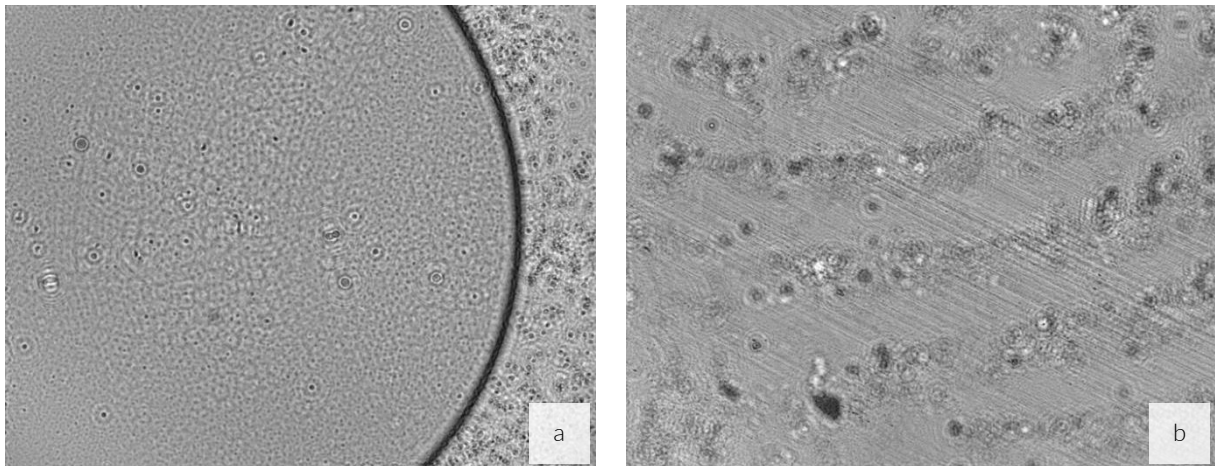


Figure 4.: Air bubbles (a) or on/contaminations (b) in the acella are visible in the microscope image

Contaminations such as dirt in the sample or on the sample carrier influence the autofocus and can thus affect the counting of the cells.

Please note our video on the correct handling of the acella.



4. Is the sensor contaminated?

Contaminations of the sensor, which can affect the autofocus and thus the measurement, can also be detected in the microscopic image. Dirt appears on each image. It is recommended to check the sensor at regular intervals under the menu item "Sensor status" and to clean the sensor if necessary. Please refer to our video on cleaning the sensor.



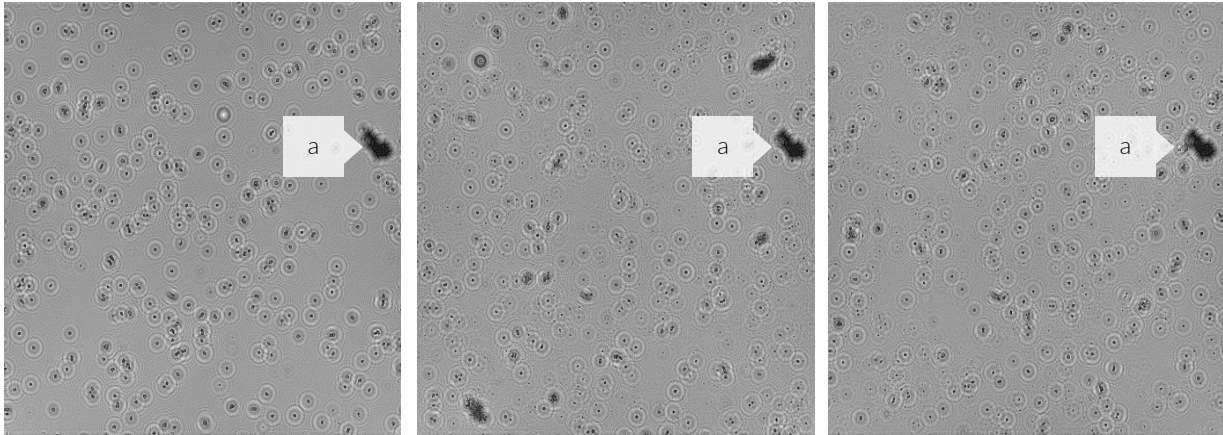


Figure 5.: Contaminations of the sensor can be detected on the microscopic image.

5. Did you find any deviations from your reference method?

Please check the following points:

1. Did both samples come from the same medium?
2. Were the samples taken at the same time?
3. Has the cell suspension been sufficiently resuspended?
4. Did cytotoxic effects of dyes such as trypan blue occur during the reference measurement?
5. Did the cells sink within the sample carrier?
6. Was the gating set equal?

6. If the problem persists, send us an e-mail to support@anvajo.com with the following content:

- **Serial number (SN)** of the device: 10038 000XXX located on the back of the device.
- **Description of the problem** and which steps led to this problem
- If you have any questions about your results or reconstructed images from the device, see how to export them via anvajo datalab [here](#)