

Overview & Introduction

Automatic Cell Counter _ **FACSCOPE B**



CURIOSIS



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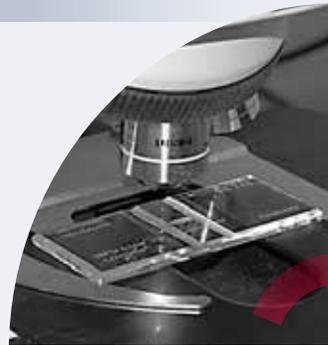
Cell counting is a quantification of cells in the field of life sciences, including medical diagnosis and treatment. It is basically determining the number of cells in a specific volume of a sample. However, this is an essential step to calculate the concentration of cells and useful to view the viability and growth rate. In addition, it is an important indicator to determine cell proliferation.

- ✓ **Essential to the field of biological research**
- ✓ **Convenient to analysis cell viability**
- ✓ **Effective to observe cell growth rate**
- ✓ **Indicator to measure cell proliferation**

Current manual counting contains factors that can bring about a lot of inconvenience and inconsistent values such as time consuming and human error.

1 Reusable slide

- Need washing
- Incorrect volume



2 Manual focusing

- Causing human error



4 Record by hand

- Time consuming



3 Distinguishing Viability manually

- Tally counter



FACSCOPE B is a fully automatic stand-alone cell counting system based on a 4X bright field microscopy. FACSCOPE B overcomes problems associated with conventional hemocytometer and manual counting. In addition, the accuracy increases to manual counting levels with exclusive detection algorithm.



- ✓ **Disposable counting slides**
 - Skip washing step
- ✓ **Auto focusing**
 - Reduction in the time and human error
- ✓ **Auto calculation of viability**
 - No need calculation
- ✓ **A report generation**
 - Save the reliable result



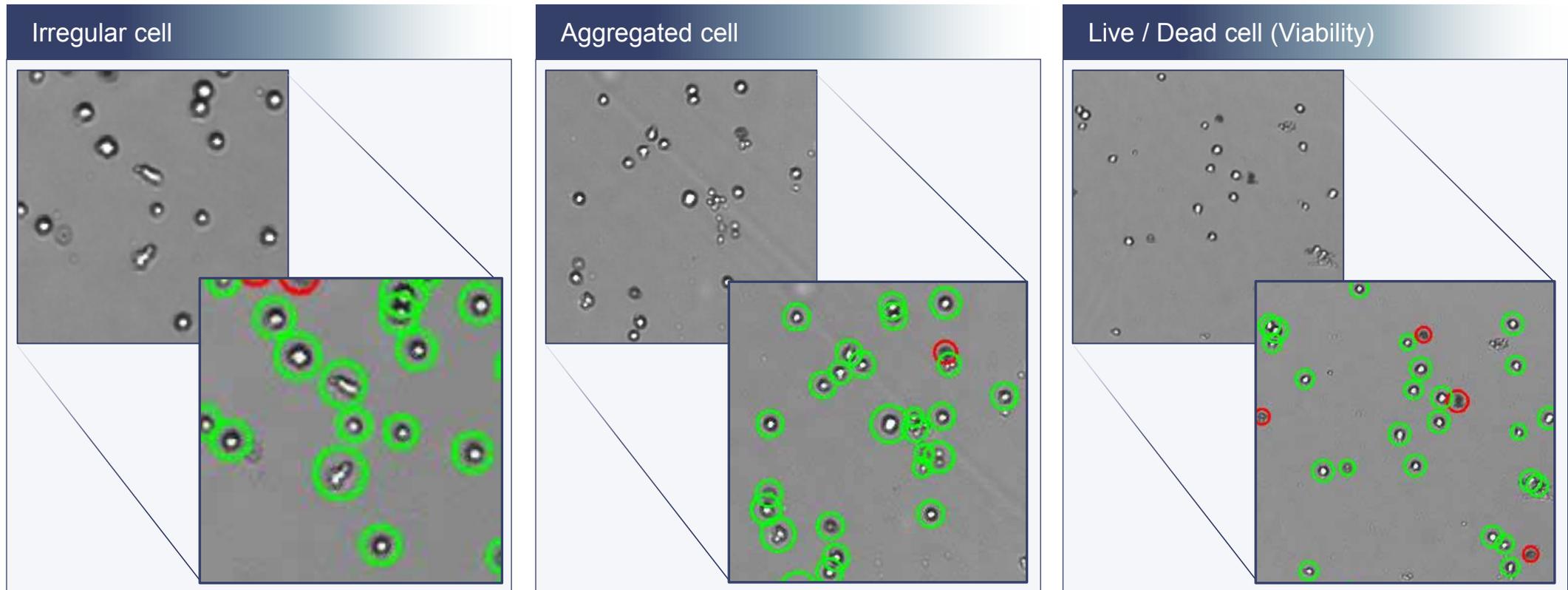
1. Accuracy

2. User-friendly

3. Additional benefit

Detection algorithm

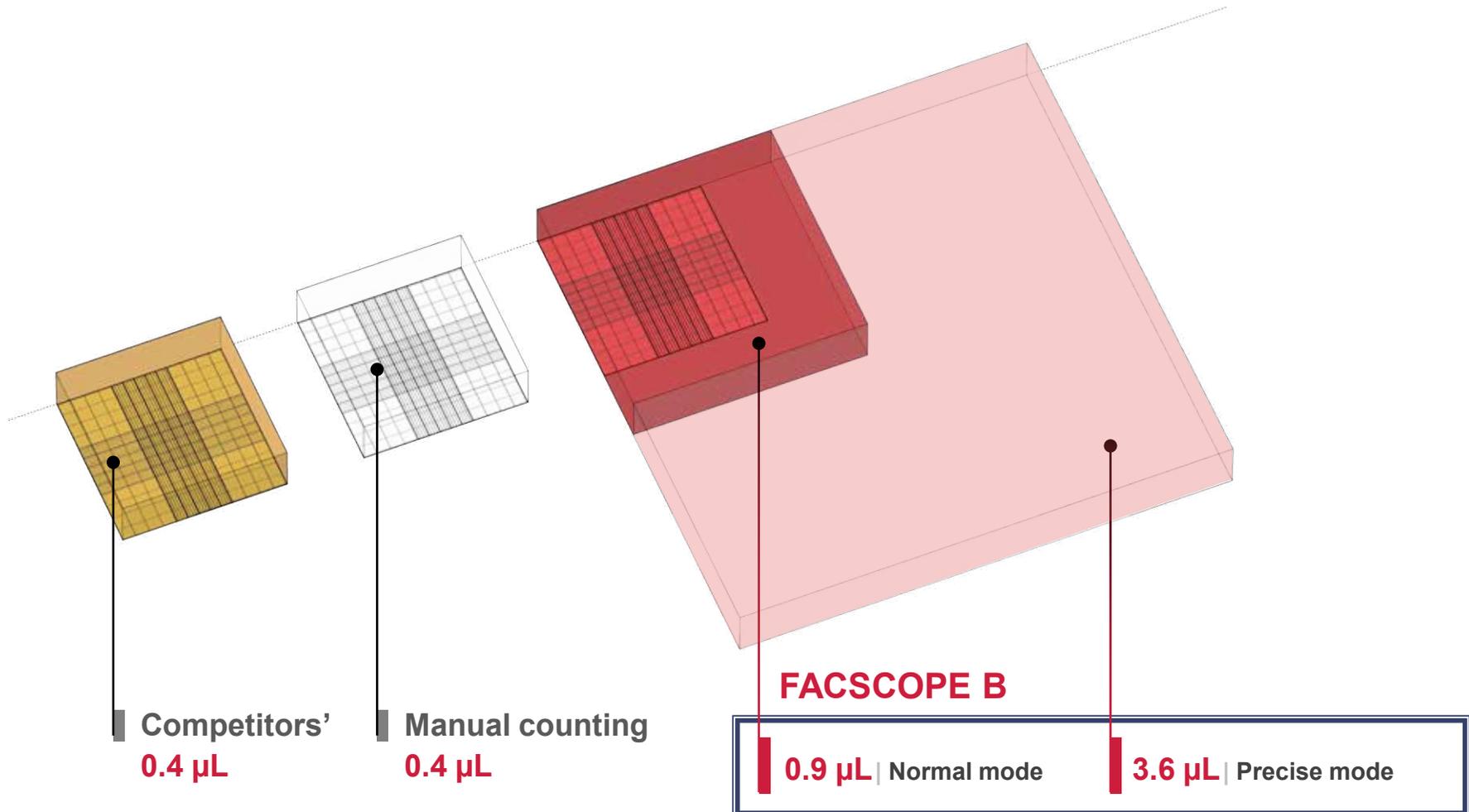
FACSCOPE B's **exclusive detection algorithm** detects a broad range of cell types such as irregular, aggregated, and live/dead cell with various parameters optimized for cell analysis.



1. Accuracy

Counting volume

FACSCOPE B analyzes larger counting volume than hemocytometer and any other cell counter, so more data is being acquired. As a result, **FACSCOPE B** provides more reliable counting results.



FACSCOPE B has three different modes that the user can select according to their purpose. Each mode has its own intention to be used and the accuracy increases when properly operated.

‘ Selectable options as purpose of usage’



Quick mode
0.15 μ L

- Approximate number of cells is needed
- (\approx 20s per channel, 1×10^6 cells/ml)



Normal mode (default)
0.9 μ L

- To test cells with general concentration and size
- High accuracy compared to other cell counter
- (\approx 30s per channel, 1×10^6 cells/ml)



Precise mode
3.6 μ L

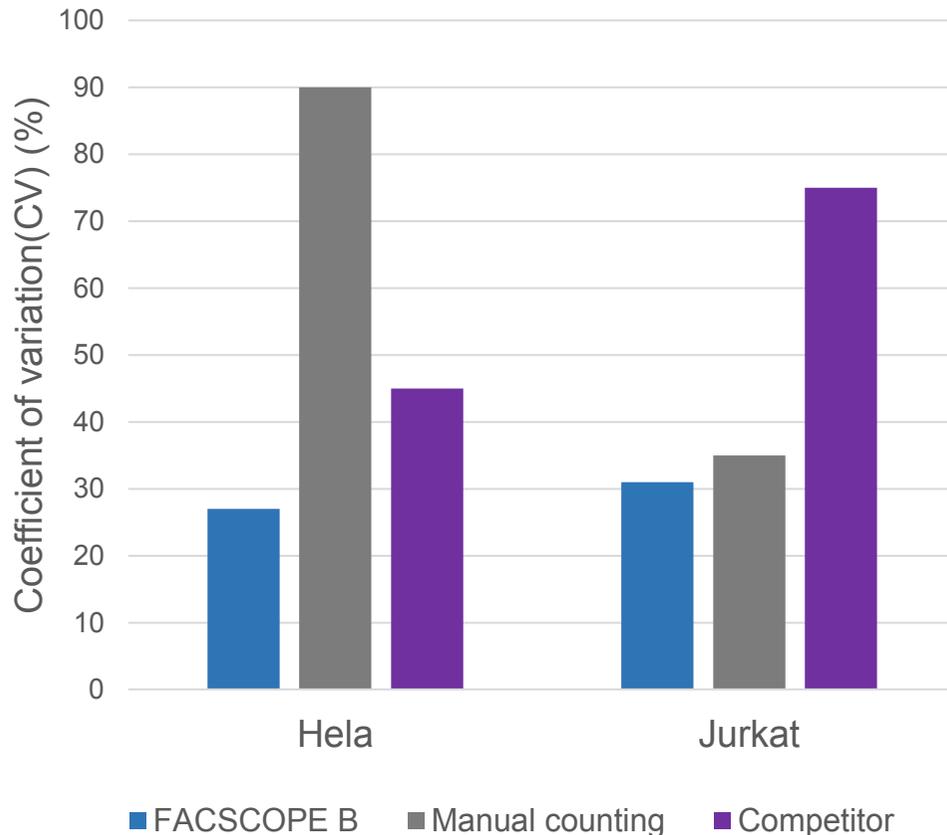
- To count low concentration sample
- Precise number of cells is needed
- Measuring low density cell
- (\approx 100s per channel, 1×10^6 cells/ml)

1. Accuracy

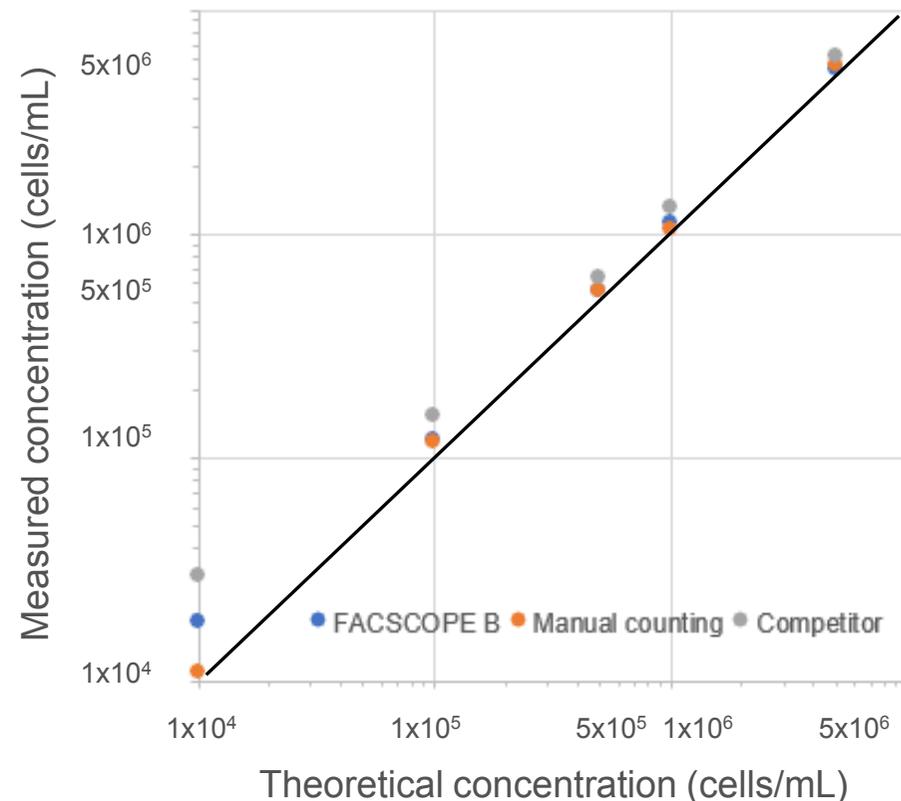
Counting performance

FACSCOPE B provides more reliable results than other brands. Because its counting variation is smaller than Hemocytometer and the others, and its measured concentration is more similar to the theoretical concentration than the competitor's.

Counting variation



Measurement accuracy



2. User-friendly

Selective preset

Presets eliminate the need for certain parameter adjustments, and it simplifies the user's workflow meanwhile improving the results.



U (Universal)

- To check general size and shape of cells
- 10~55 μ m



A (Angular)

- To count non-circular or variant shape of cells

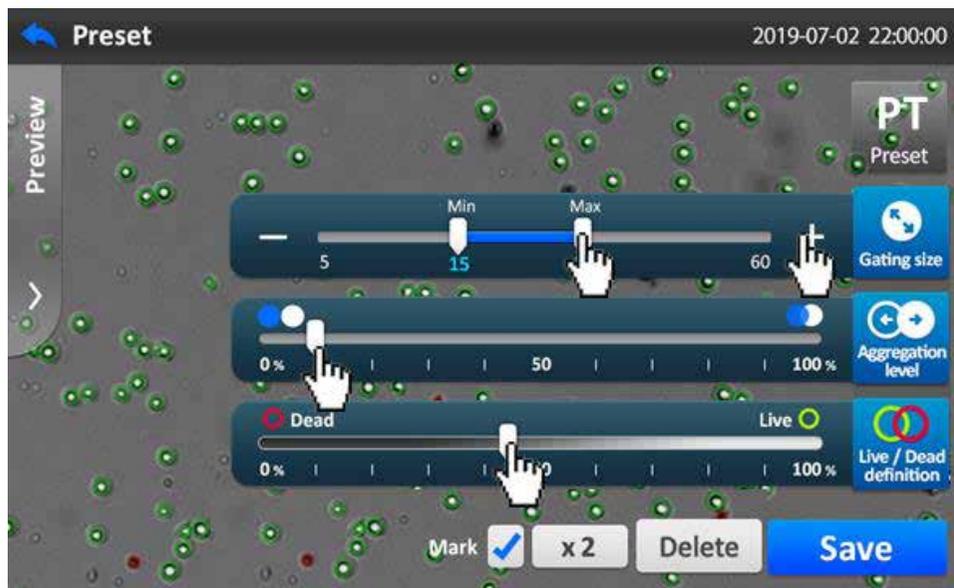


S (Small)

- To test small size of cells
- 5~10 μ m

Customized preset

Customizing presets for specific cells broadens the range of experiments and is suitable for a personalized research.



Gating size

- Detects 5~60 μ m cells and even particle-size cells



Aggregation level

- A parameter to separate clustered cells well
- Generally, 60 to 90% value is adequate



Live/Dead definition

- Users adjust live / dead cells for themselves

3. Additional benefit

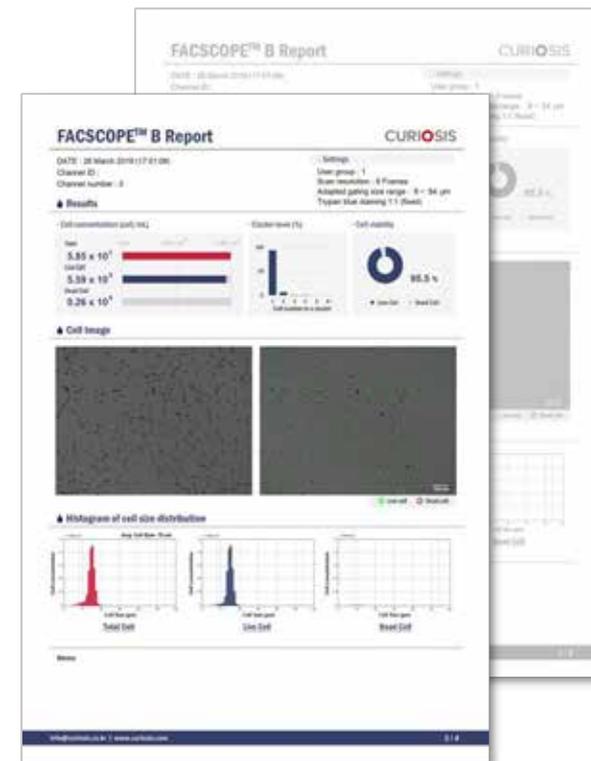
1) 4-channel slide at a time

- No need to take the slide out and reinsert it after one measurement
- The depth of C-Slide is designed evenly
- The sample is spread out properly due to special surface treatment



2) Exporting data (PDF)

- Date of your experiment
- Setting mode that reminds experiment protocol
- Value of concentration and viability
- Real image that is taken
- Histogram showing cell size distribution



Comparison table

FACSCOPE B vs. Others

Specification	FACSCOPE B	TC-20	Countess II	Luna II
Image				
The number of chamber per slide	4	2	2	2
Loading sample volume	20 μ L	10 μ L	10 μ L	10 μ L
Analyzing volume	Max 3.6 μ L	0.4 μ L	0.348 μ L	0.5 μ L
Thermal printer	Y (optional)	Y (optional)	N	Y (optional)
Counting data storage	3,000 EA	100 EA	N	1,000 EA
Cell concentration range	1×10^4 - 1×10^7 cells/ml	1×10^5 - 5×10^6 cells/ml	1×10^5 - 4×10^6 cells/ml	5×10^4 - 1×10^7 cells/ml
Detectable cell diameter	5-60 μ m	6-50 μ m	7-60 μ m (particles: 4–60 μ m)	3-60 μ m (optimal : 8-30 μ m)