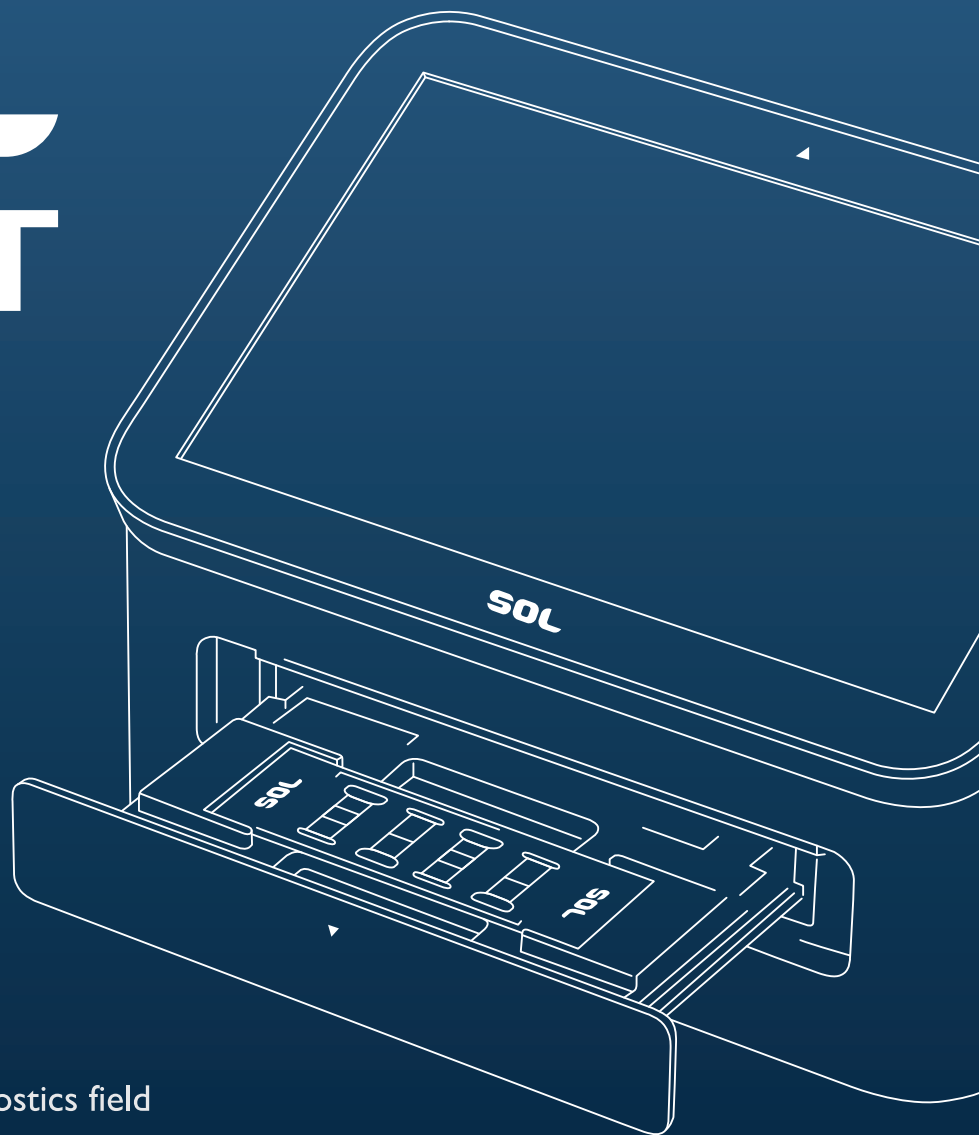# THE EASIEST CELL COUNTER YET

Cell counting is never effortless,
but SOL COUNT can make it easier.

SOL
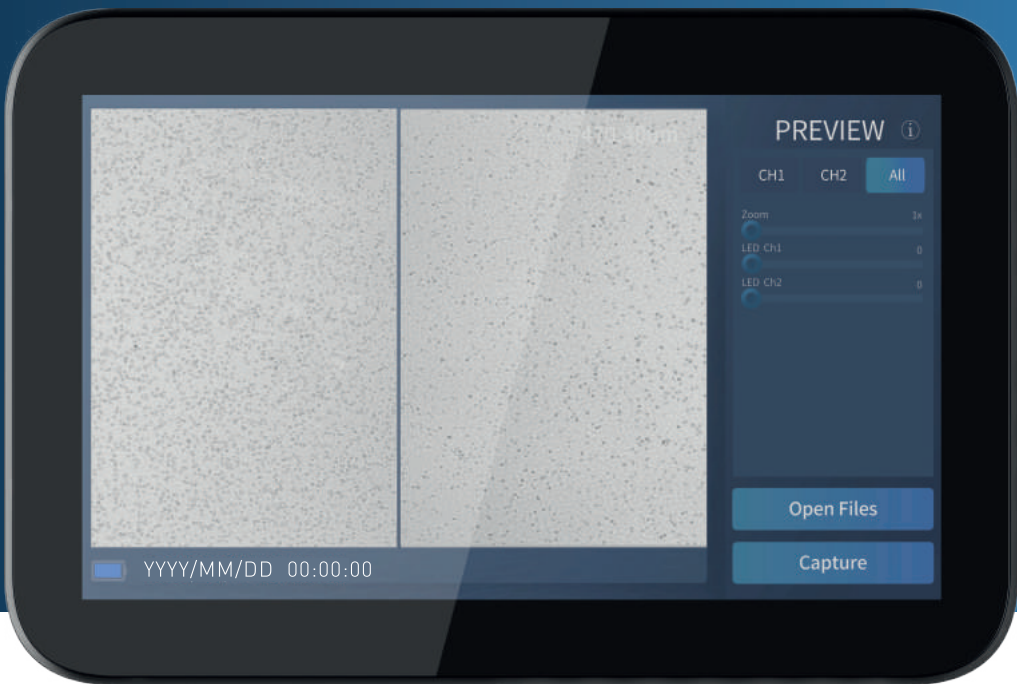# COUNT

Meeting unmet needs in the diagnostics field

SOL
COUNT

INSIDE Bio LF SOL

SOL Inc. is a disruptive bio-tech company with semiconductors for lens-free sensors.

Most laboratories and research centers continue to be challenged to provide high-quality services in the face of increasing demand for and escalating costs of advanced study.

SOL COUNT CAN HELP ADDRESS THESE CHALLENGES.

PREVIEW ⓘ

CH1 CH2 All

Zoom   1x
LED Ch1   0
LED Ch2   0

Open Files

Capture

YYYY/MM/DD 00:00:00
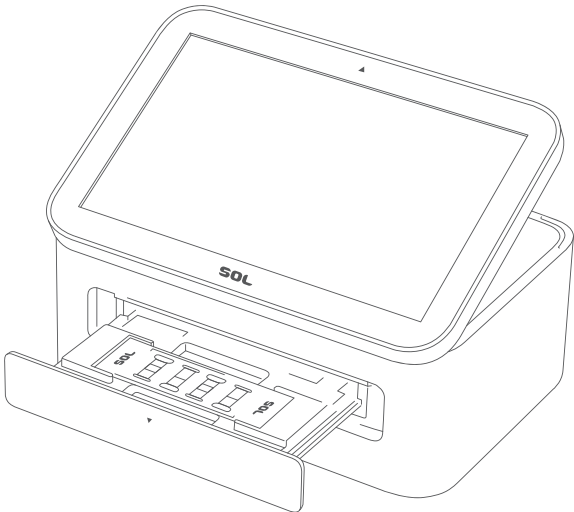
SOL COUNT
OVERVIEW

SOL COUNT Automated Cell Counter is a new technology that can automatically count multiple cell types simultaneously. SOL, the company name, also means cell. SOL COUNT Automated Cell Counter utilizes lens-free LED optics and CMOS sensing technology to quickly and accurately measure the total number of cells, live and dead cells, and easily store and transfer the data. Furthermore, two kinds of cells can be measured at the same time.

The disposable four-channel cartridge makes it easy to use and more cost-effective than any competitor. In addition, SOL COUNT Automated Cell Counter is a compact, portable device that can be installed in a mobile lab.

SOL COUNT IS DESIGNED FOR:

SOL COUNT

FAST RESULTS
From loading to cell count results, 10 seconds a channel

EASE of USE
Prepare sample ▶ load ▶ get results

MULTI-CELL COUNTING
2 sample/1 shot ▶ 2 results at the same time

ACCURACY
$R^2 = 0.99$ (Compared Manual)

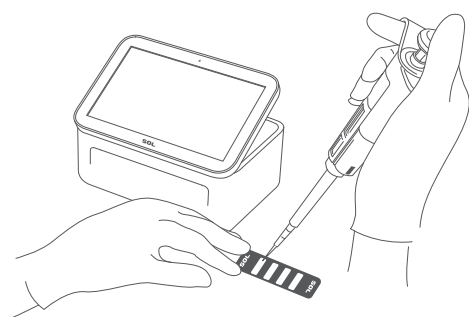**CONNECTIVITY**
Wi-Fi, ethernet
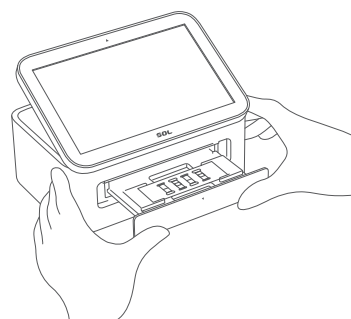
PORTABLE
Light weight, chargeable

The Testing Process in 4 Easy Steps
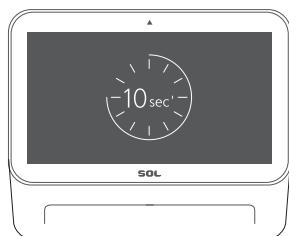
STEP 1

Load 10ul of cells in a cartridge with a pipette
(45° is the optimal angle)
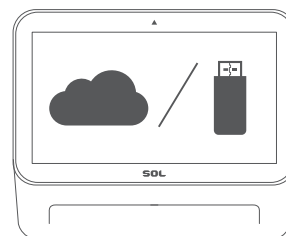
STEP 2

Push and open cartridge tray,
then place the cartridge

STEP 3

View results within seconds per channel

STEP 4

Transmit results to Cloud server and USB

SOL COUNT

SOL COUNT Compared with Hemocytometer (Manual)

The cell counting area of SOL COUNT has a measurement range that is 10 times larger than that of the hemocytometer, thus improving the accuracy of cell counting.

Comparison of Cell Counting Measurement Range

SOL COUNT
10.02 mm²

>

Hemocytometer
1 mm²

SOL COUNT
| Automated |

Hemocytomater
| Manual |

2.74 mm

1 mm

1 mm

3.66 mm

SOL COUNT measurement range = 10.02 mm²

Hemocytometer measurement range = 1 mm²

3 mm

3 mm

Hemocytomater measurement range = 1 mm²
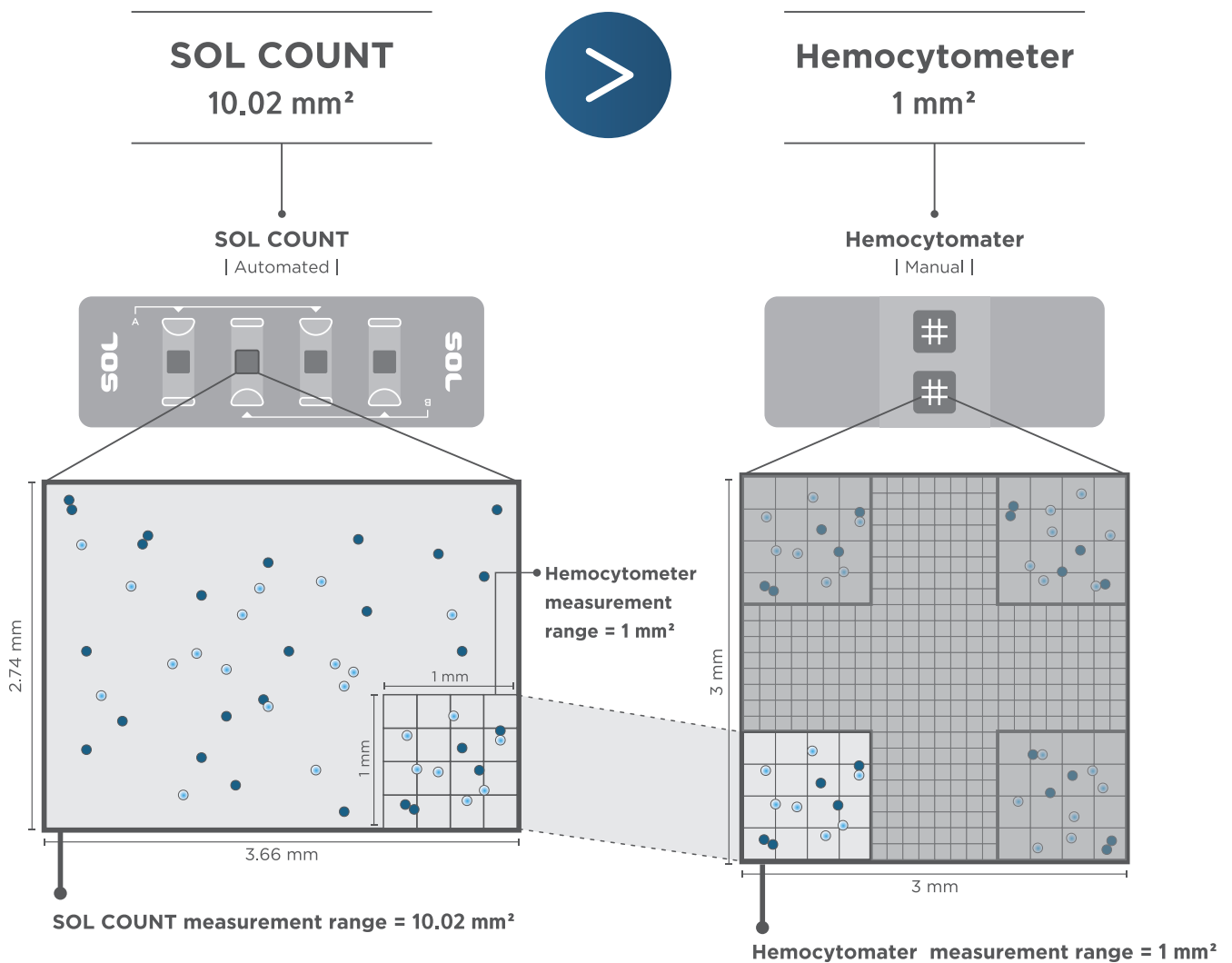
Accuracy: SOL COUNT vs Hemocytometer

$y = 1.0175x + 0.0984$
$R^2 = 0.9987$

- SOL COUNT
- Hemocytometer
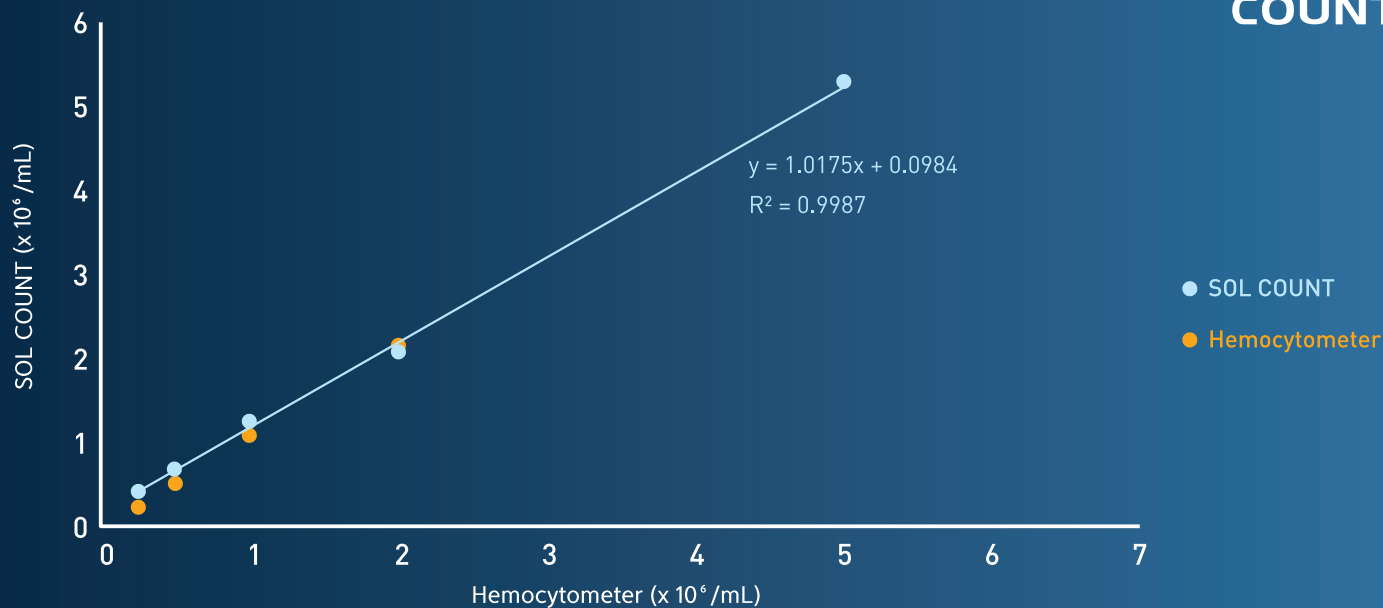
The total number of K562 cells counted by the hemocytometer, which is a manual method, correlates well with that of SOL COUNT.

Repeatability

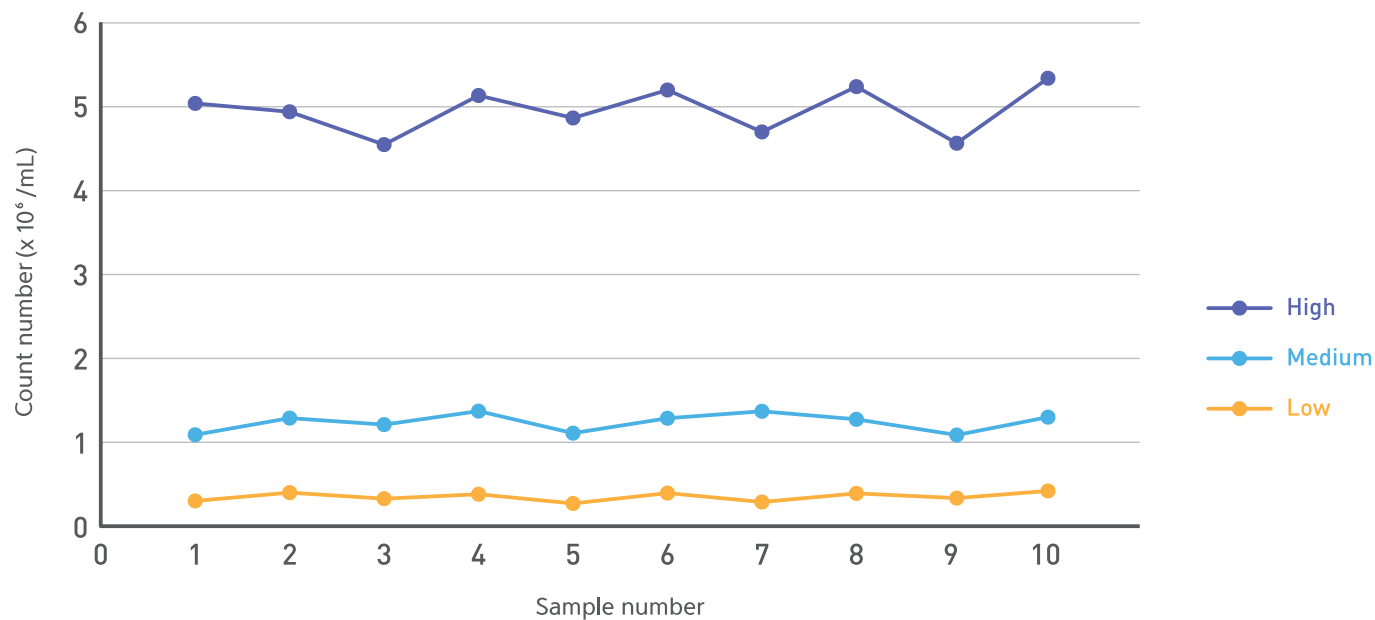|	High	Medium	Low
	n=10	n=10	n=10
MEAN	4.925×10^6	1.232×10^6	0.347×10^6
SD	0.28013	0.1082	0.05238
CV	0.056879	0.1082	0.150782

SOL conducted an experiment with 10 K562 cells lines each of low, medium, and high concentration to confirm reproducibility through the SD and CV.

SOL COUNT

Viability Comparison

SOL COUNT
Hemocytometer

Control: Cultured cell K562, CQ 0mM, 0h

Untreated: Cultured cell K562, CQ 0mM, 72h

CQ: Cultured cell K562, CQ 0.5mM, 72h

*CQ: Chloroquine, cell inhibitor treatment
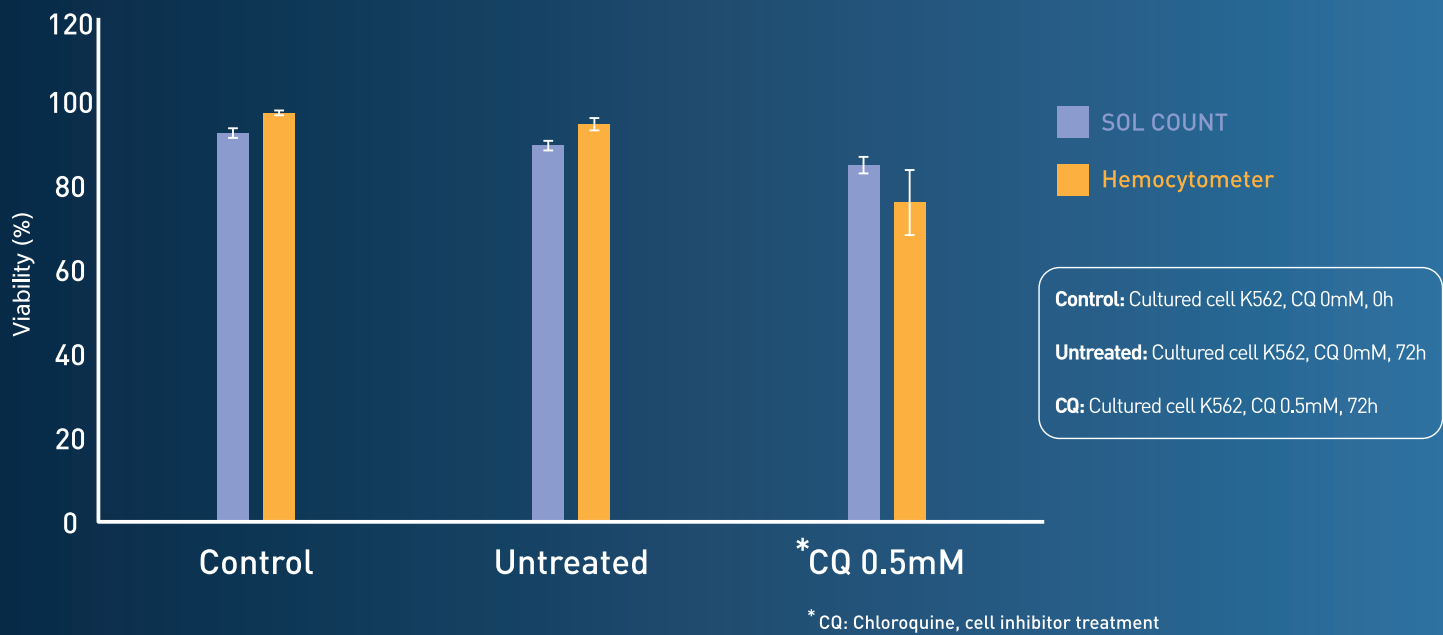
SOL COUNT measures viability through the live and dead cells in trypan blue staining conditions.

Microscopy Image
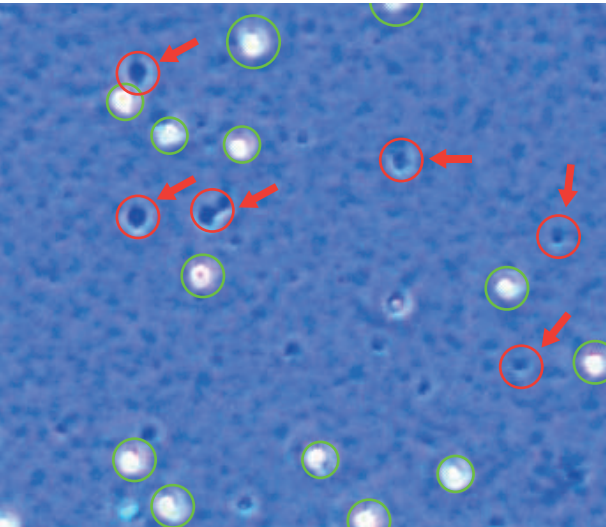
SOL Image

○ Live cell   ○ Dead cell

Comparison of cell viability between SOL COUNT, a manual count and a Hemocytometer. Viability was compared after K562 cells were treated with 0.5 mM chloroquine.

SOL COUNT CLOUD SERVER SOLOUD
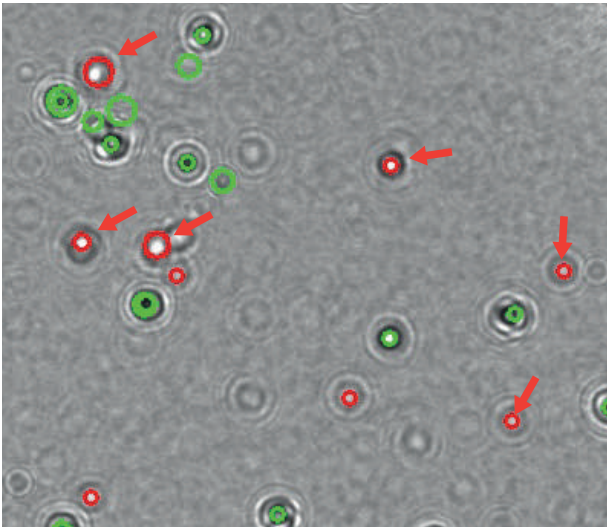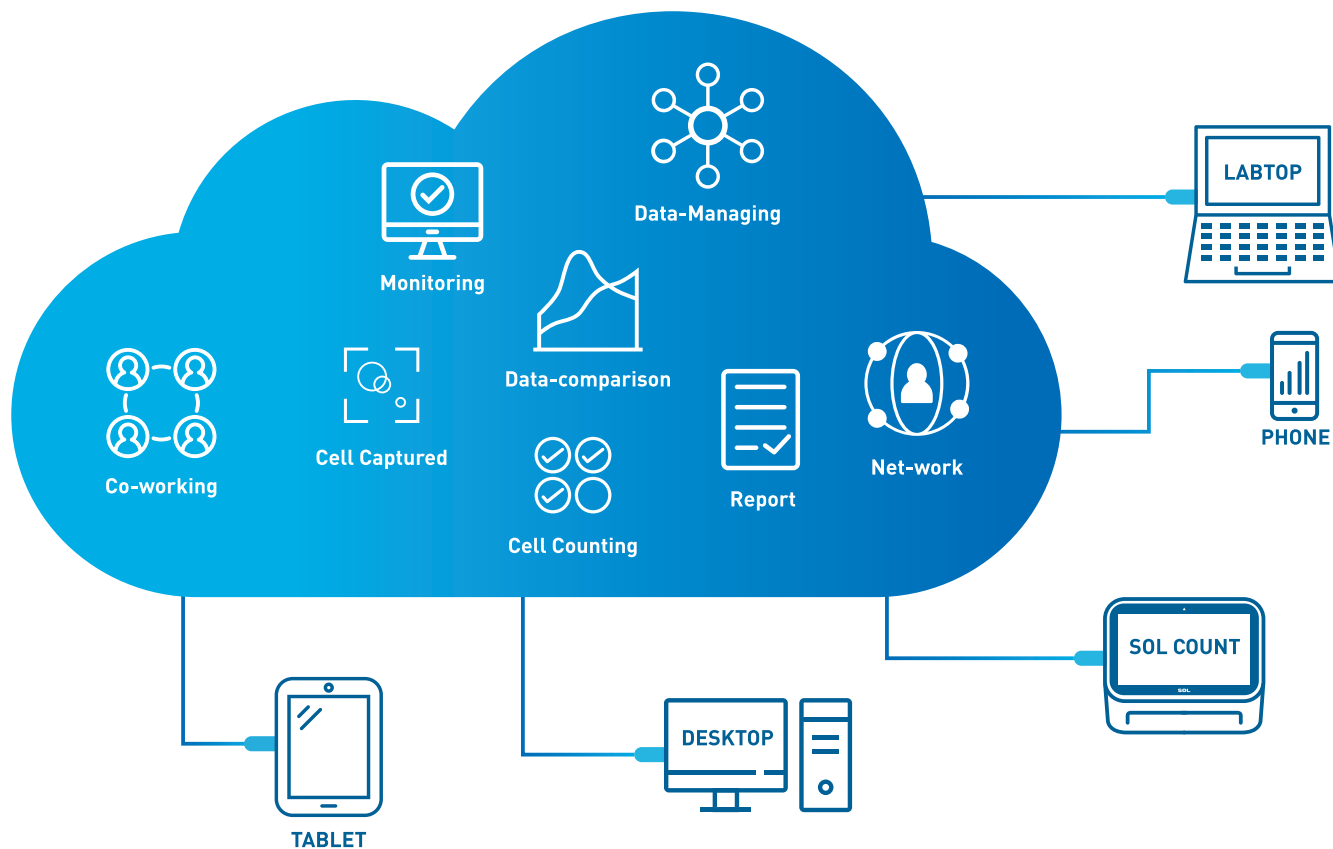
SOL COUNT

Data-Managing

Monitoring

Data-comparison

Cell Captured

Co-working

Cell Counting

Report

Net-work

LABTOP

PHONE

SOL COUNT

DESKTOP

TABLET

Access regardless of time and place ▶ **Increase User's productivity**

Build platform for rapid customer response & trust

Improved accuracy & shortened analysis time for new cells via AI

1. Image capture with catridge

2. Image analyze and result output

3. Image save

Save @ Cloud

New image

AI Engine

6. Auto upgrade
of Deep learning model

AI weight
file server

5. Model
weight file

4. Countinous
learning of
new cell type
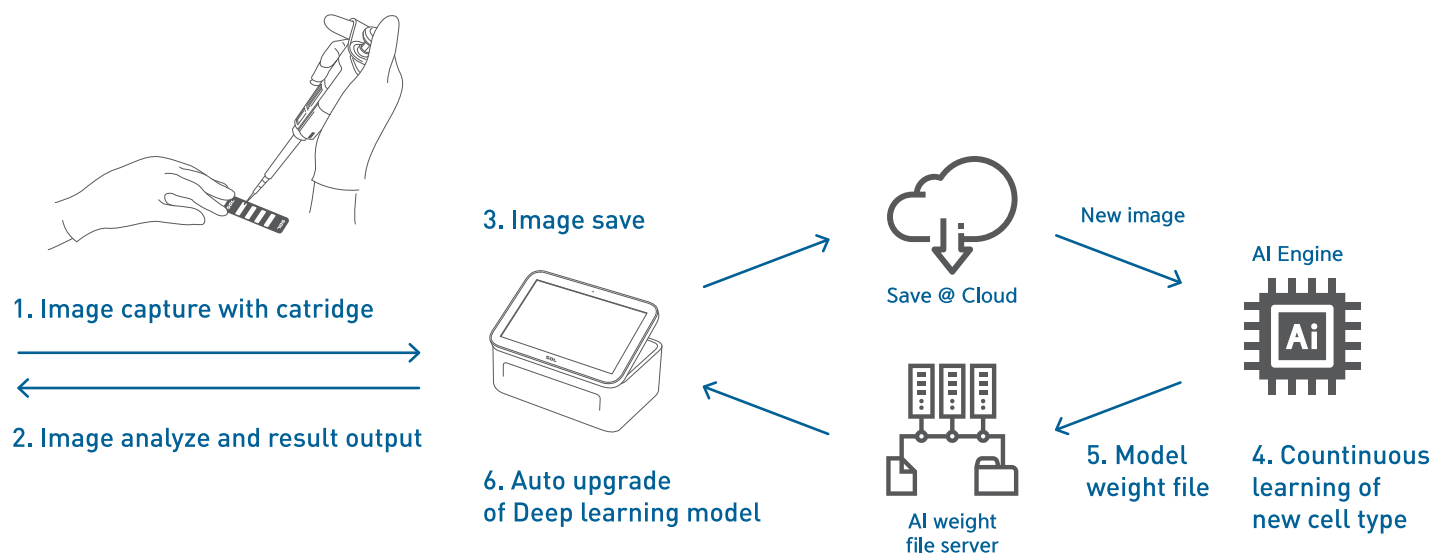
Cell Line Validated

	Cell type	Animal	Organ	Growth properties
01	K–562	human	blood	suspension
02	Vero	monkey	kidney	adherent
03	A549; A–549	human	lung	adherent
04	HT–29	human	colon	adherent
05	NIH3T3	mouse	embyro	adherent
06	HeLa	human	cerbix	adherent
07	MCF–7	human	breast	adherent
08	Colo25	human	colon	adherent
09	MRC–5	human	lung	adherent
10	THP–1	human	monocyte	suspension
11	U–87 MG	human	brain	adherent
12	HepG2	human	liver	adherent
13	CHO–K1	hamster	ovary	adherent
14	L–929	mouse	connective tissue; subcutaneous	adherent
15	A–204	human	muscle	adherent

Specifications

Cell Counting Time	≤ 10 s/channel
Cell Concentration Range	$0.1 \times 10^6 \sim 8 \times 10^6$ cells/㎖
Cell Size Range	5–50 μm
Cell Viability Range	0~100%
Sample volume	10㎕
Sample Method	Trypan blue stain
Image Resolution	8MP
Exporter formats	jpg (image), PDF (report)
Data export	USB drive, Cloud Server(SOLOUD)
Display	6.95" Touch LCD
Connectivity	Ethernet, Wi–Fi (2.4G, 802.11 b/g/n), HDMI
Dimensions (WxDxH)	180 x 120 x 78 mm
Weight	1.8kg
Electrical Input	5V, 2A USB C Type charging
Battery	4400mAh

Ordering Information

Product Code	Product Name	Composition / Unit
SOL COU 1	SOL COUNT	SOL COUNT Autumated Cell Counter device 1ea, SOL Cartridge 1box, C–type cable, USB drive
SOL COU 2	SOL Cartridge 1 box	50 ea / 1 box
SOL COU 3	SOL Cartridge 2 box	50 ea / 1 box
SOL COU 4	SOL Cartridge 10 box	50 ea / 1 box
SOL COU 5	SOL Cartridge 20 box	50 ea / 1 box
SOL COU 6	SOL Cartridge 30 box	50 ea / 1 box
SOL COU 7	SOL Cartridge 60 box	50 ea / 1 box