CURIOSIS

Overview & Introduction

Automatic Live Cell Imaging System _ Celloger Mini

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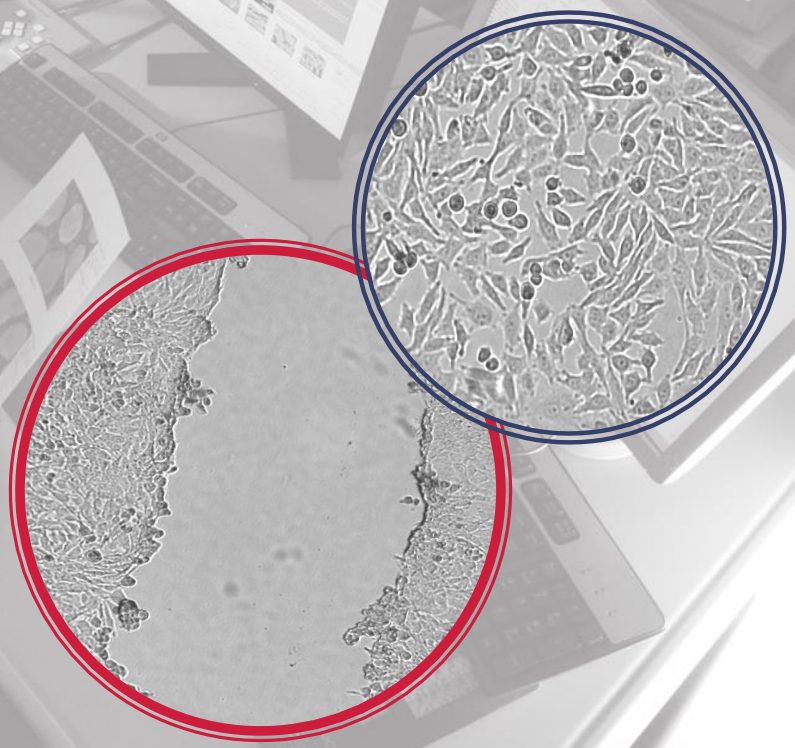
Introduction

Live cell imaging is the study of living cells using time-lapse microscopy.

It is used by scientists to verify cell to cell interactions, understanding of biological function through the research of cellular dynamics.

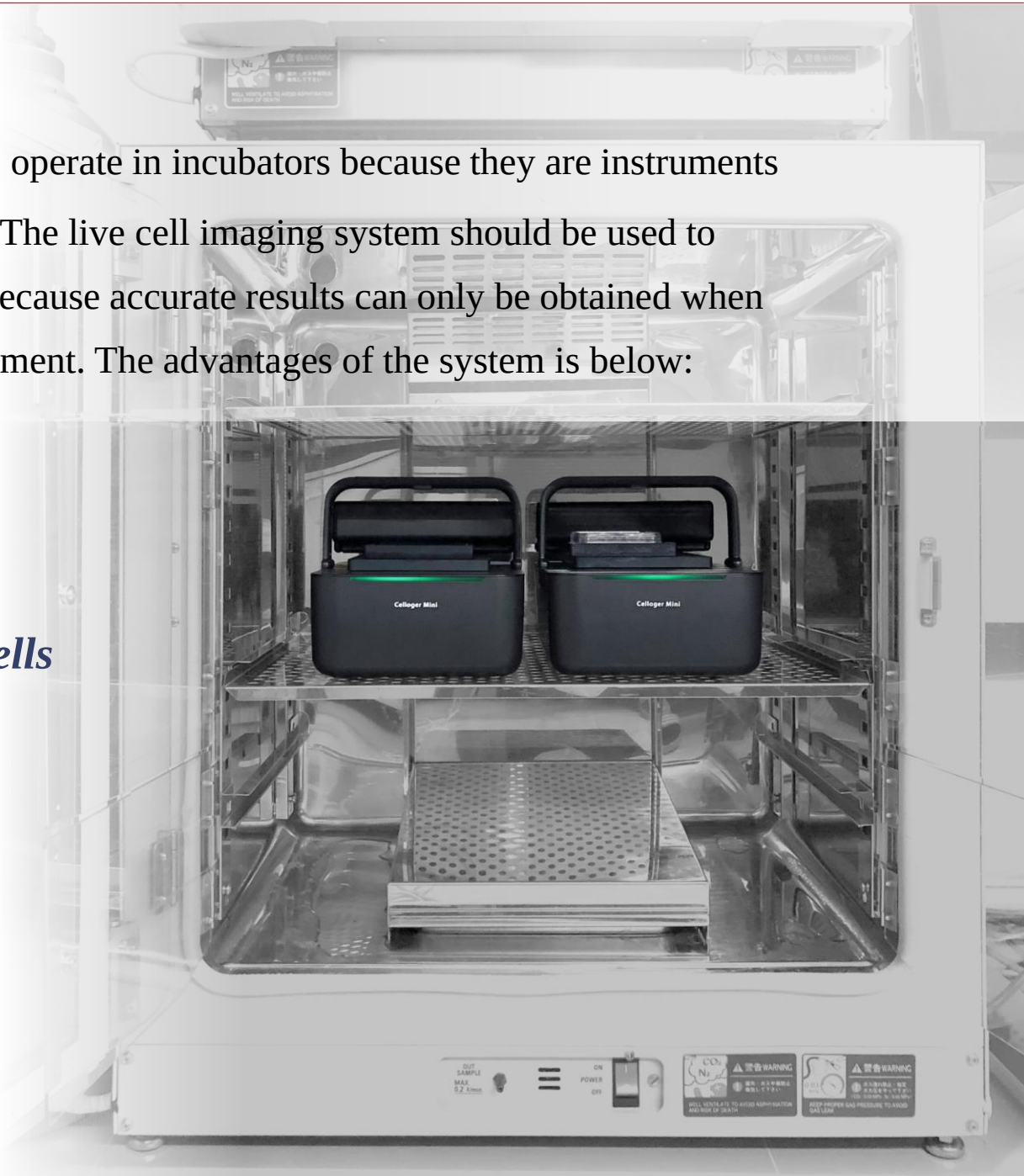
- ✓ ***Cell observation in an optimized environment (cell damage is none due to not taking it out)***
- ✓ ***Cell changes can be observed to accurately characterize samples***
- ✓ ***No need a large microscope***
- ✓ ***No time constraint***



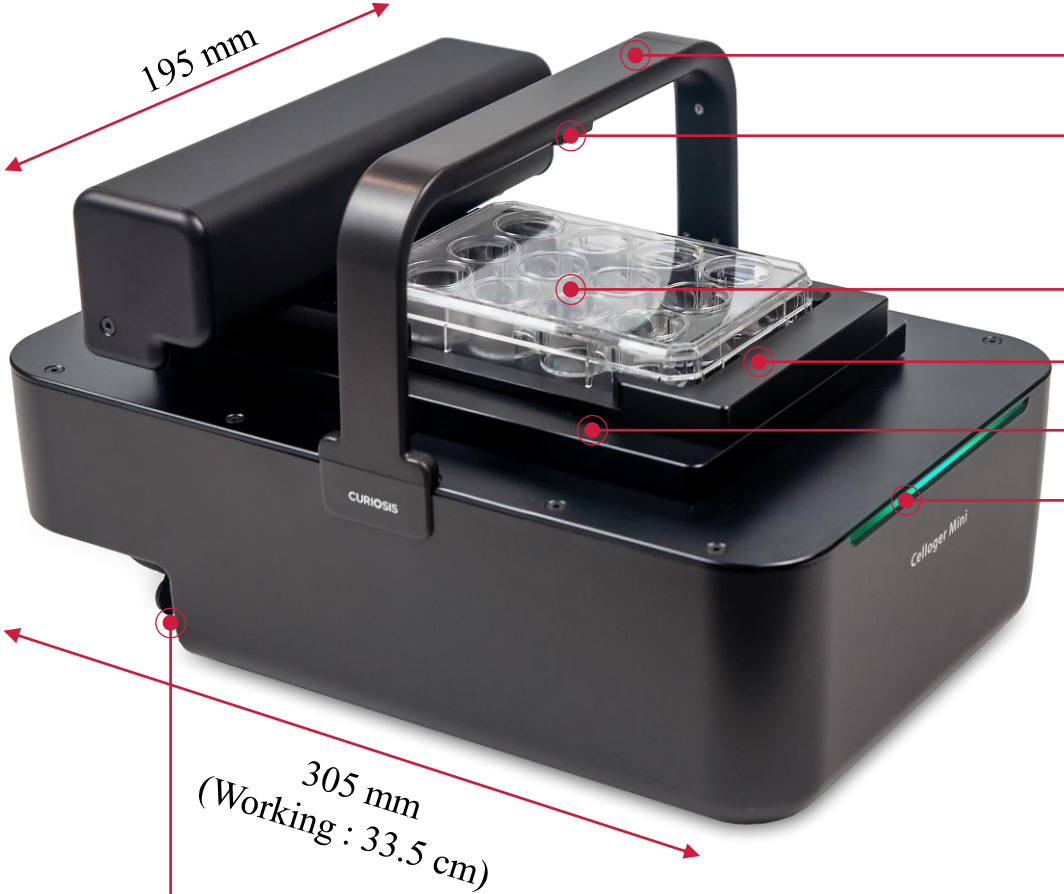
Why live cell imaging system?

Live cell imaging system is designed to operate in incubators because they are instruments for observing samples under optimized conditions. The live cell imaging system should be used to understand the biological functions between cells because accurate results can only be obtained when operated in an incubator with a human-like environment. The advantages of the system is below:

- ✓ ***Observation of live cells in real time***
- ✓ ***Enabling precise image capture of cells***
- ✓ ***Quantifying cell movement***
- ✓ ***Cell culture QC***



Celloger Mini of CURIOSIS



Temperature and humidity sensor

Bright field lamp

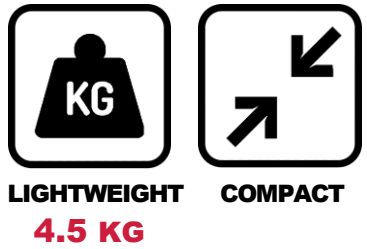
Objective Lens

Vessel holder

X-Y Stage

Status light

Green	Ready
Blue	Scanning
Red	PC disconnected



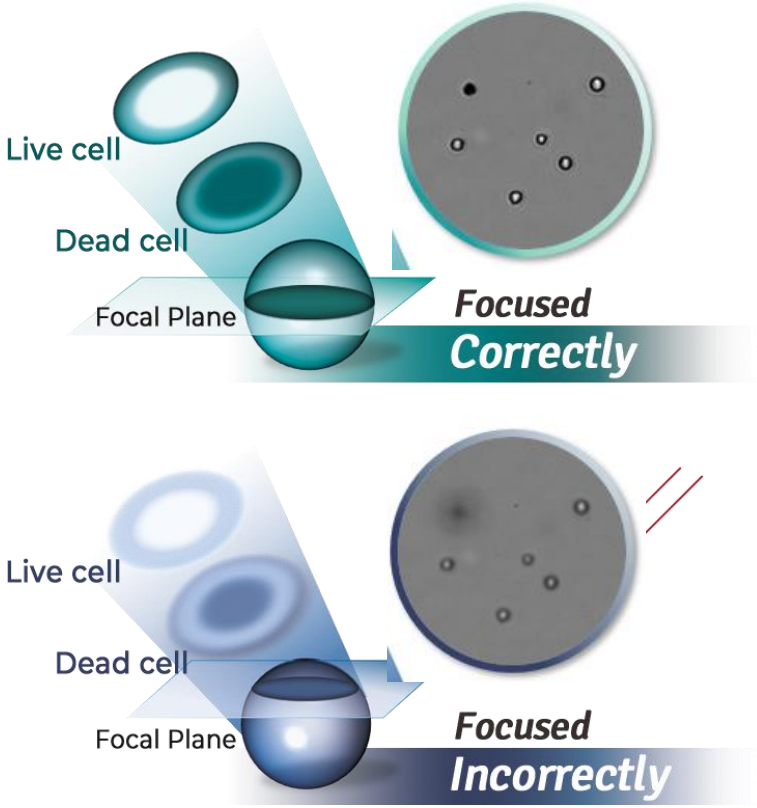
Key features

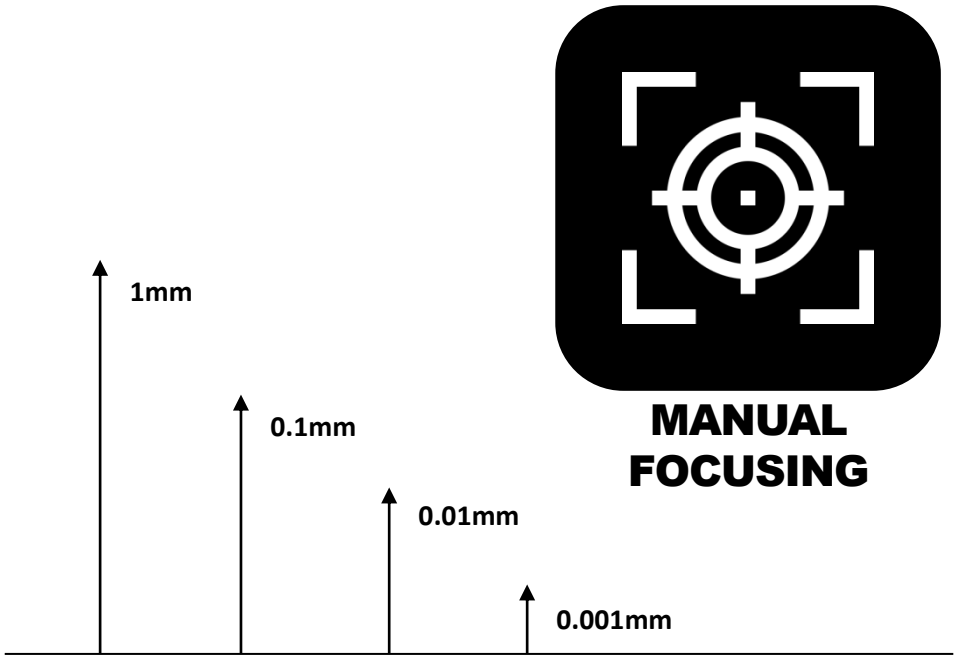
1. Automatic XY stage

With equipped XY stage, enables to use of 96 well plates and multiple points are available even in one plate. Also, because the XY stage covers two-dimension, various well plates, dish and flask are available and even other types of vessels depending on the user.

2. Focusing

Z-stage makes focusing automatically on each point user places. For your convenience, in addition, manual focus adjustment is available in 0.001, 0.01, 0.1, and 1 mm increments.



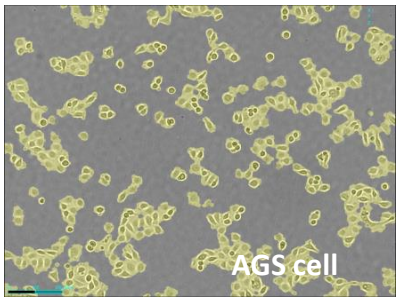


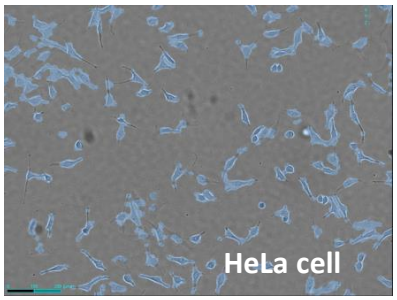
3. Cell monitoring

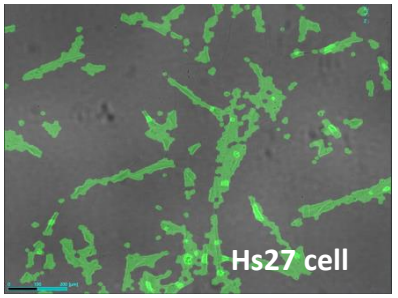
By monitoring function, cell morphology can be observed in real time for about two weeks long.

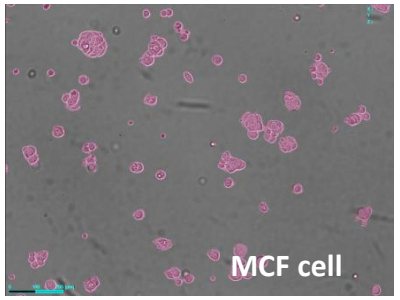
The images taken are able to be created as a video so that it allows user to view how the cell changes.

Analysis ▶ Live image

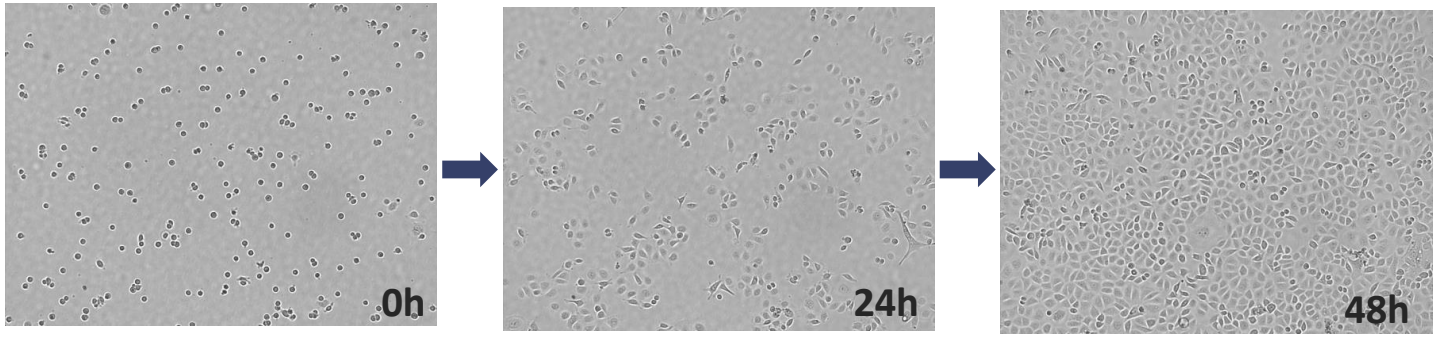






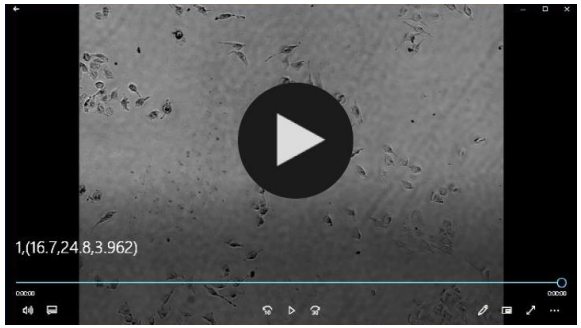


Time-lapse images



* Cell line : AGS
* Resolution : Normal

Video



User-friendly

1. Compact size

Compact size makes it straightforward to install and handle, so not complicated for maintenance and also for space utilization in incubators. In addition, the availability of multiple units has the advantage of using a sample comparison or a variety of samples.

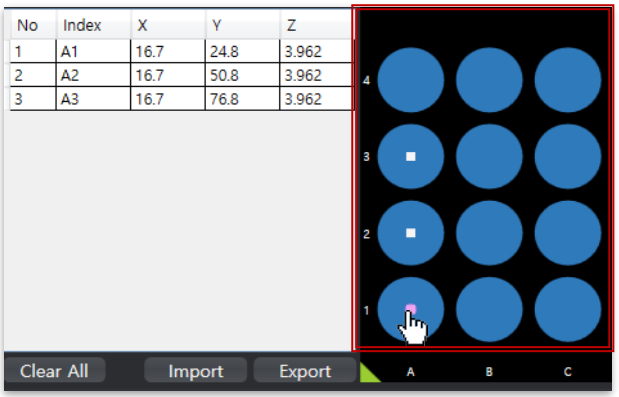
Celloger Mini

Others

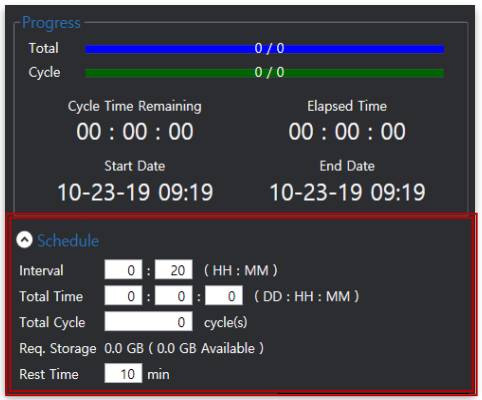
2. User software(1)

The provided software allows the user to set the location that will be detected, scheduling to determine how long the test should be performed at which interval, and analysis function to observe the shape or change of cells through the stored images.

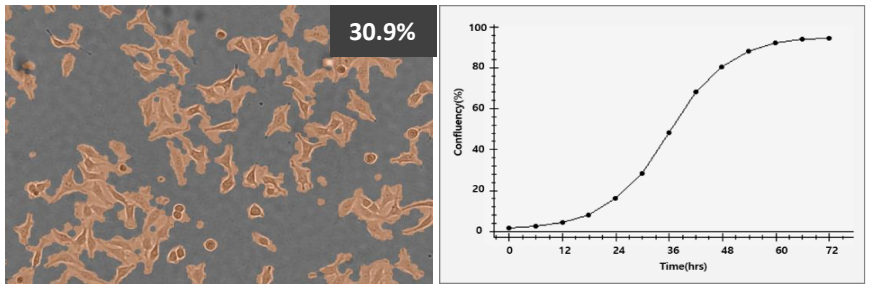
Positioning



Scheduling



Analyzing

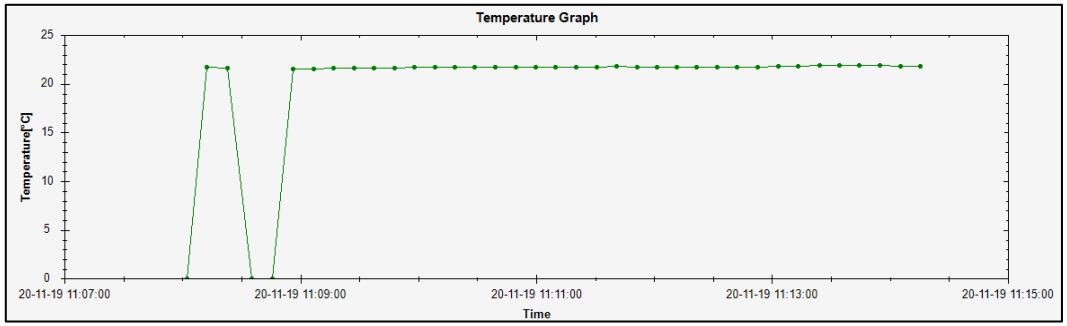


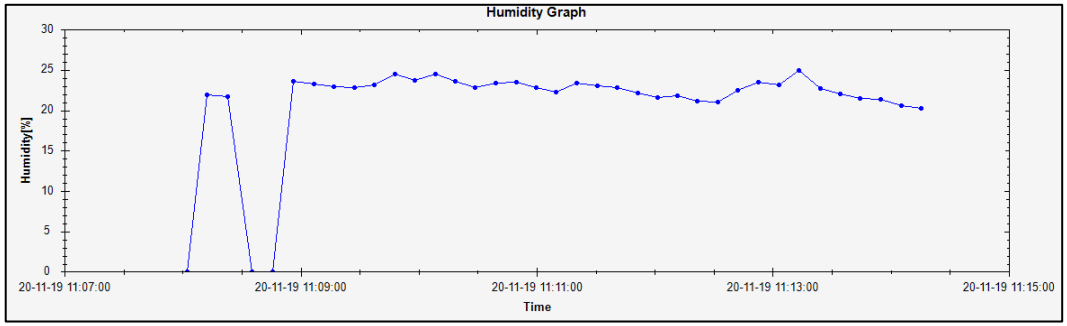
Cell line : HeLa

confluency & growth curve

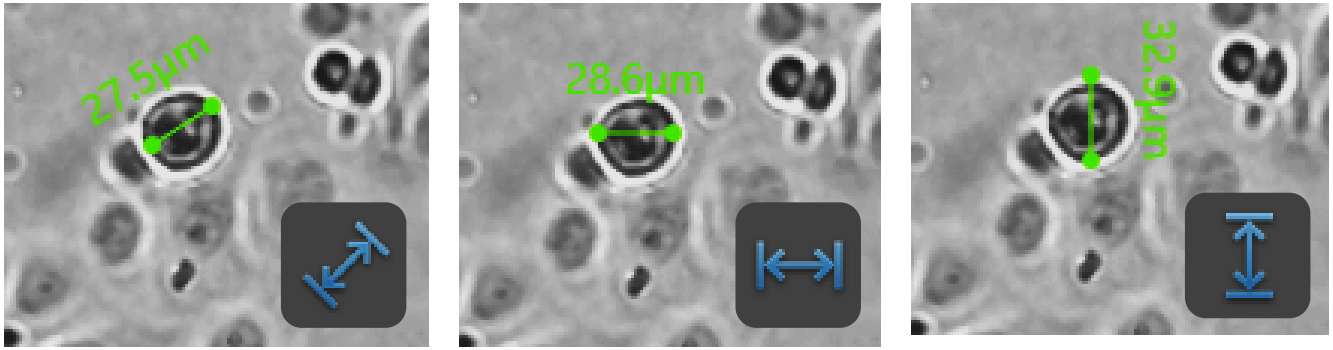
2. User software(2)

Accurate diagnosis is possible because the change in temperature and humidity can be observed in real time, and there is a ruler that can measure the size of the cell with the distance in the vertical, horizontal and diagonal directions.



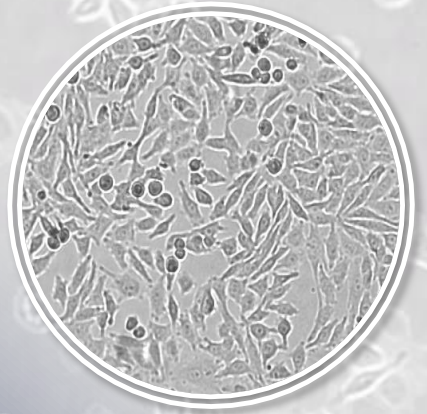


Measure cell length



Application

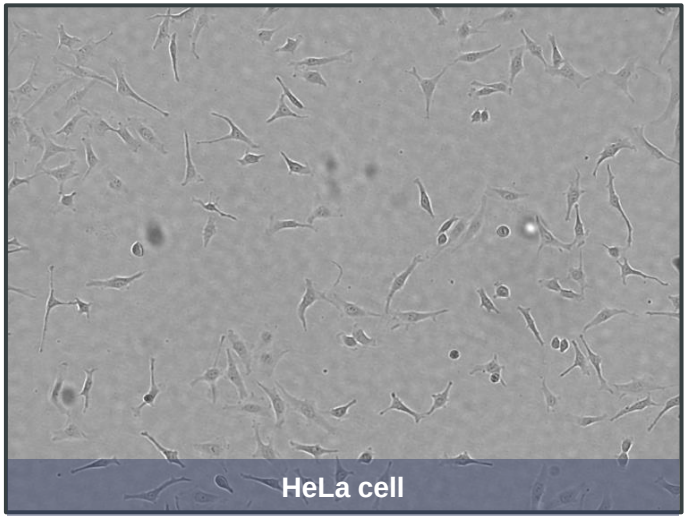
Celloger Mini is an auto-mated cell Imaging system based on a brightfield microscopy technique for live cell imaging. Celloger Mini is compatible with CO2 incubators and it is special treated to withstand the temperature and humidity.

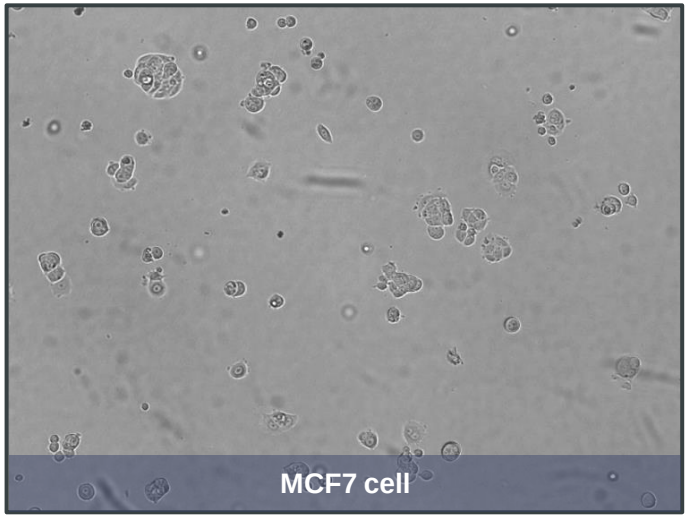


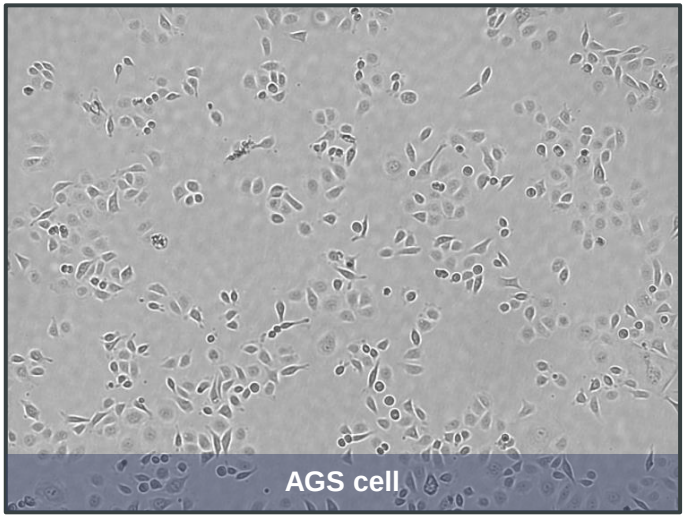
1. Live cell monitoring
2. Wound healing(scratch) assay
3. Cell growth curve & confluency

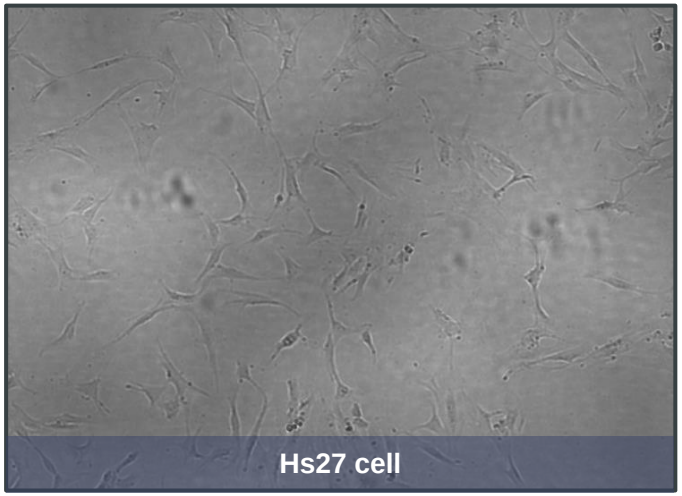
1. Live cell monitoring

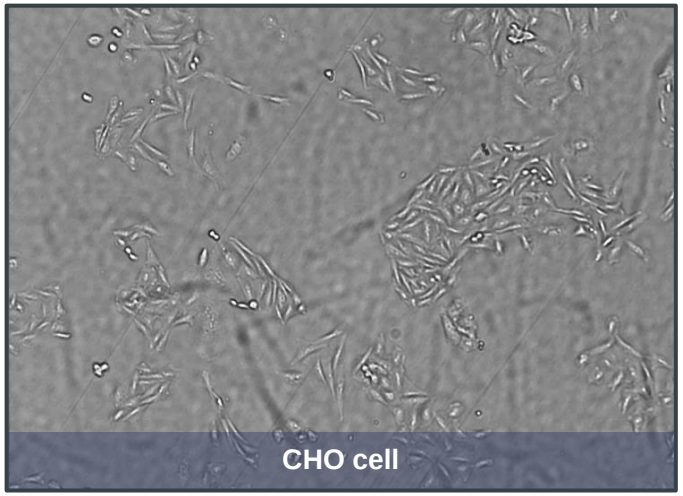
The images captured with Celloger Mini





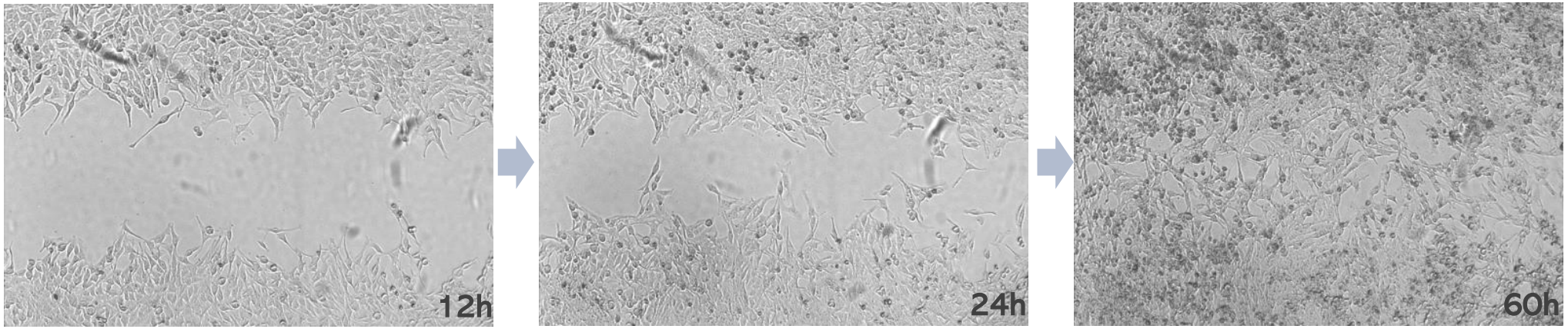




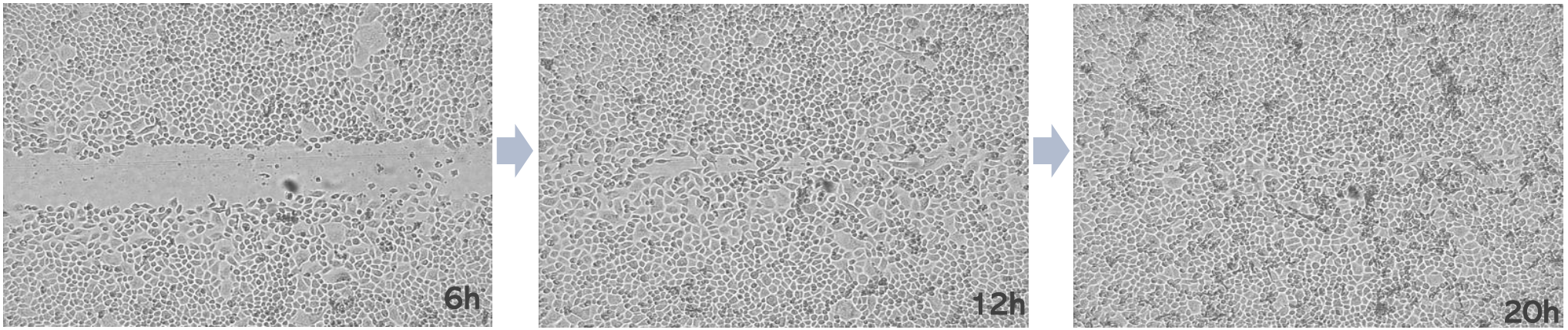


2. Wound healing (scratch) assay

Wound healing(scratch) assay images



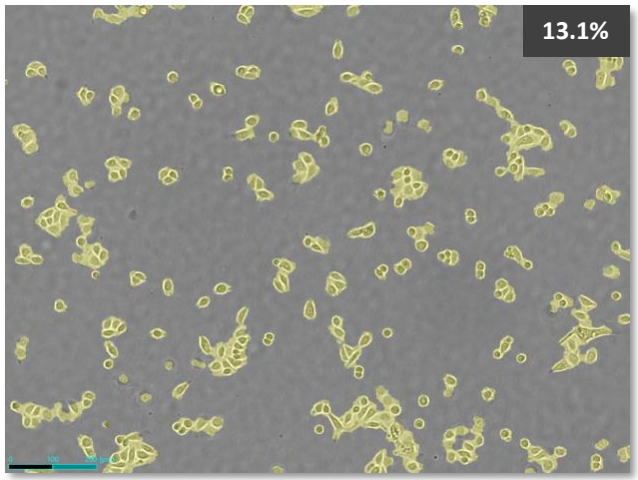
* Cell line : HeLa
* Resolution : Normal

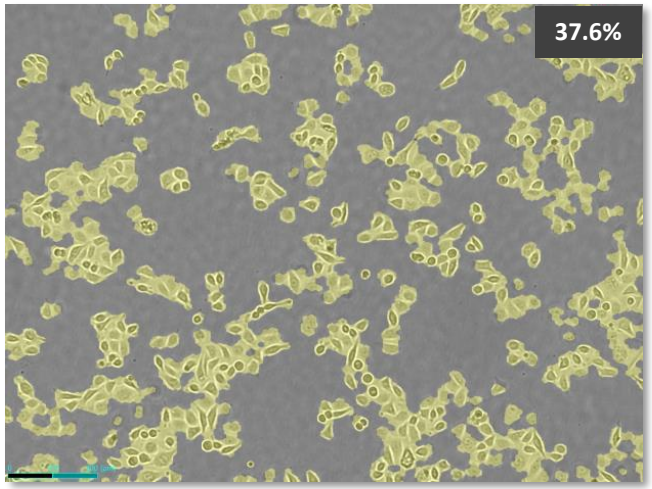


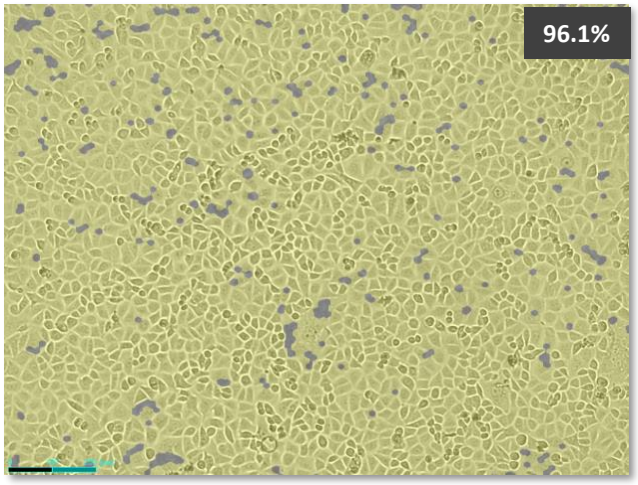
* Cell line : AGS
* Resolution : Normal

3. Cell growth curve & confluency

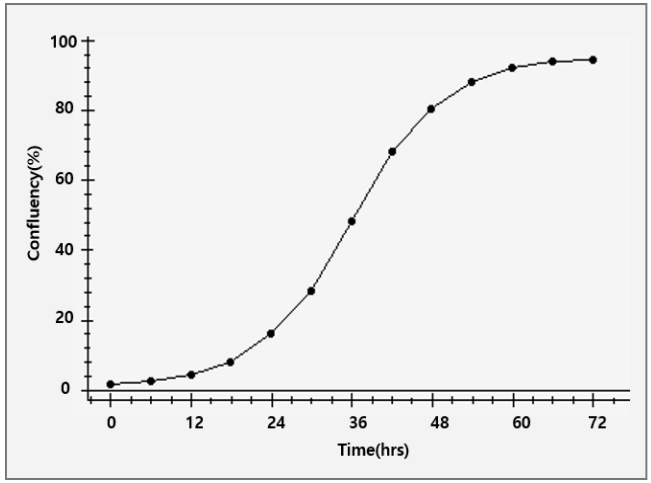
Cell confluency and growth curve



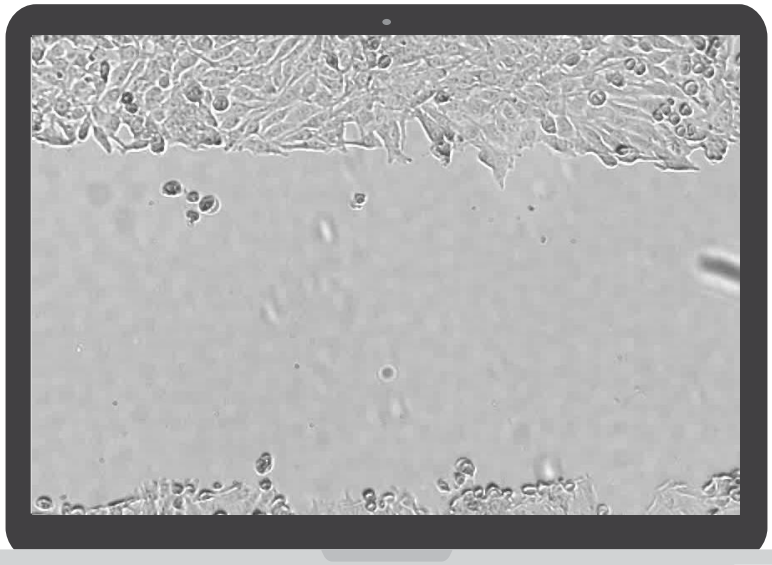


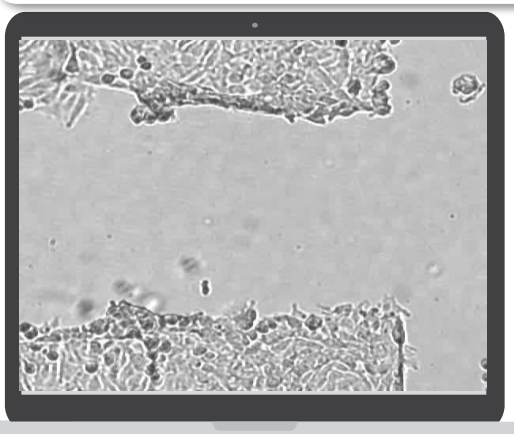


* Cell line : AGS
* Resolution : Normal

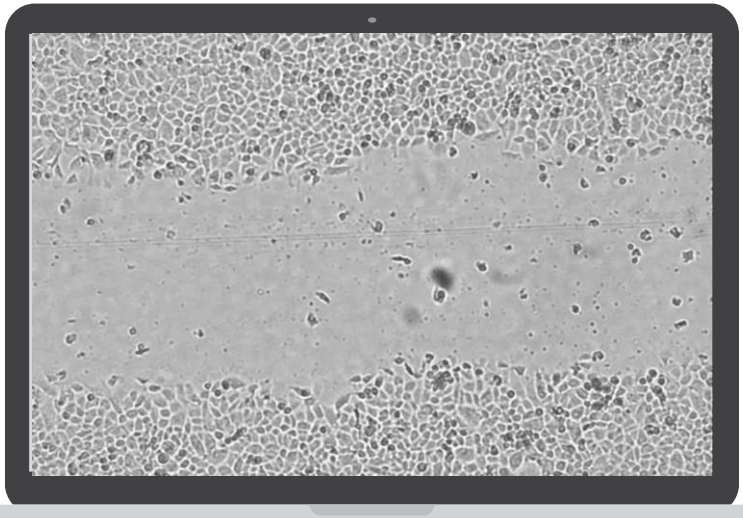


Celloger Mini : Videos of wound healing assay



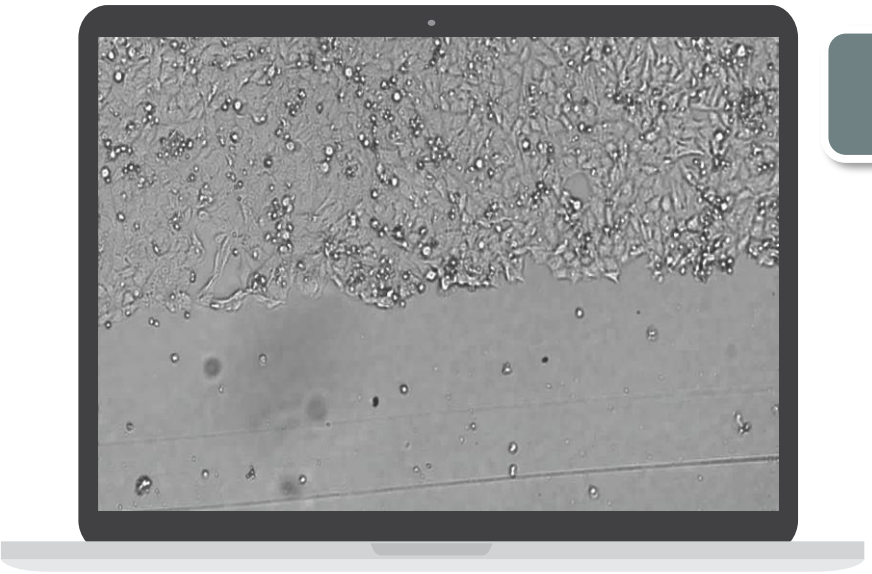


HeLa cells taken with Celloger Mini System for 5 days (90 hours)

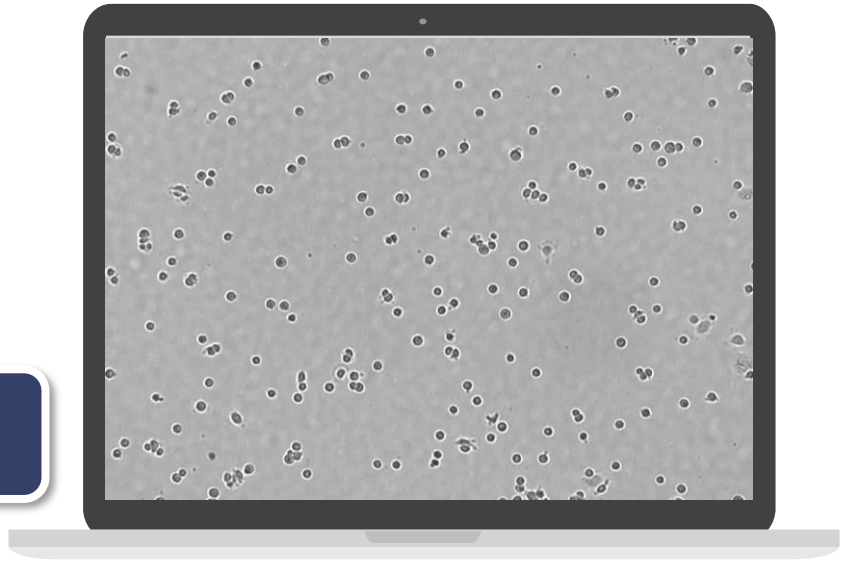


AGS cells taken with Celloger Mini System for 1 days (21 hours)

Celloger Mini : Video of migration assay



HeLa cells taken with Celloger Mini System for 3 days (64 hours)



AGS cells taken with Celloger Mini System for 3 days (62 hours)

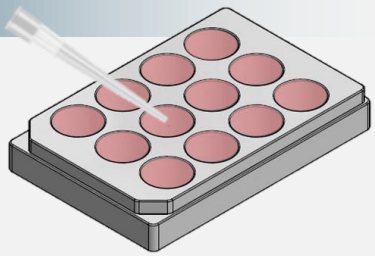
How does it works

CURIOSIS

STEP 1. Prepare

Cell Seeding

Prepare a sample.



STEP 2. Start

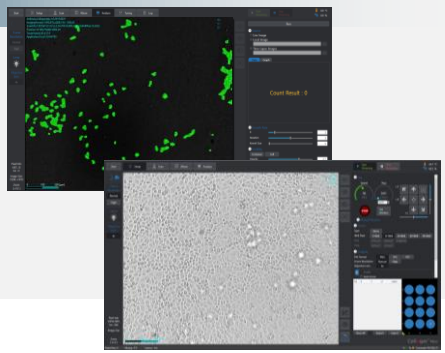
Check the cell growth

Settle down the cells
and start growing.

STEP 3. Analysis

Data analysis

Check the cells and
analysis the confluence
with Celloger Mini

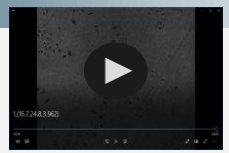


STEP 4. Result

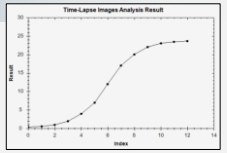
Result Data

Analyze cells
as desired, select
and save data format

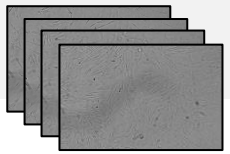
Video



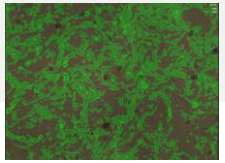
Growth curve



Time lapse images



Confluency

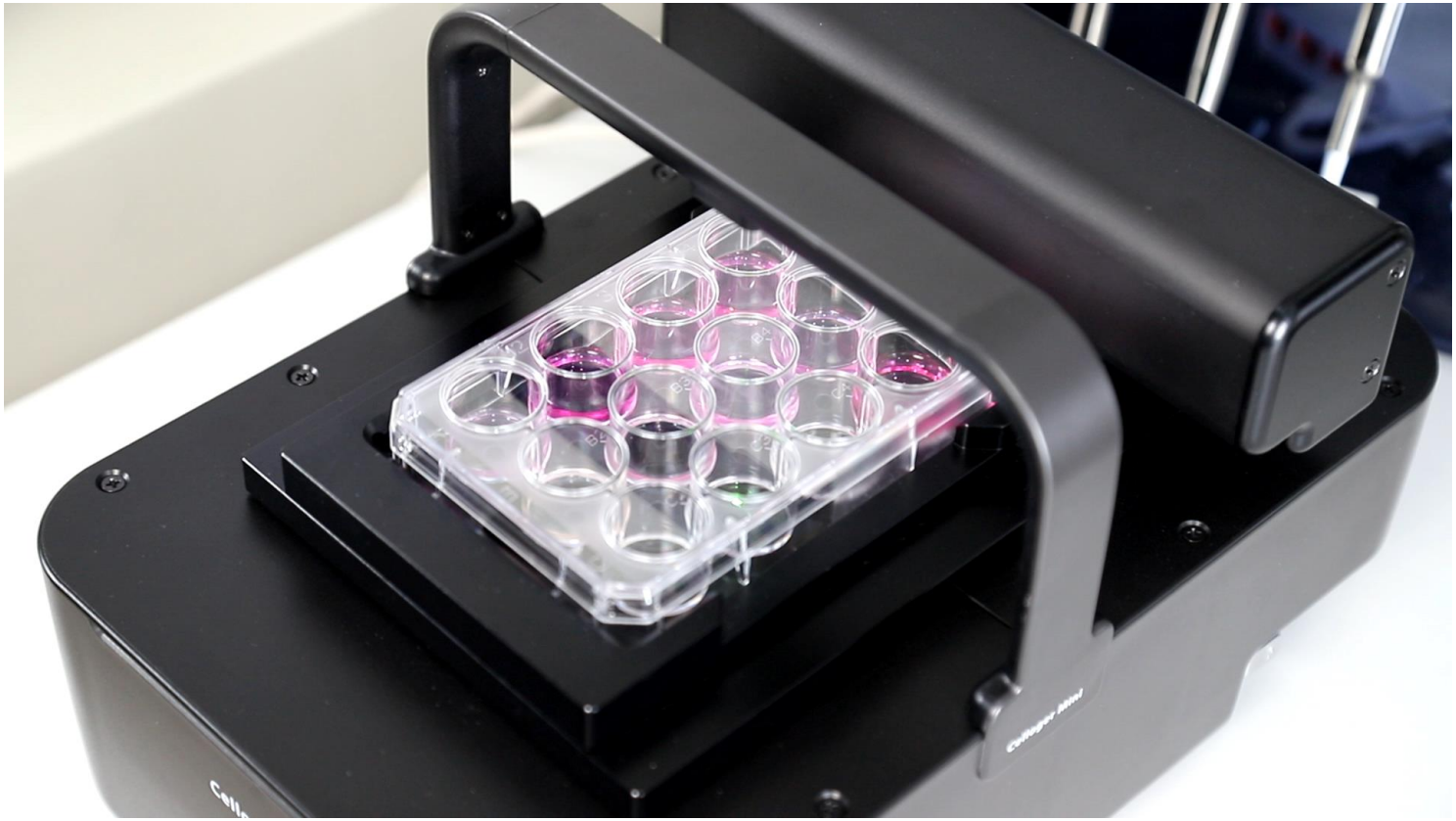


Exporting data

- Saving image format : PNG, JPG, TIFF
- Video recording format : AVI

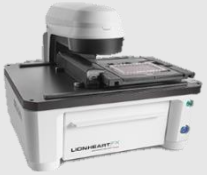
Multiple position setting

Multi position capture can provide more meaningful and reliable results for a target location than single points capturing. Celloger Mini can acquire repeated image of multiple points in well and vessel by a motorized stage.



Comparison table

CURIOSIS

Manufacturer	CURIOSIS	NIKON	LONZA	INNOME	BioTek	Sartorius
Product	Celloger Mini	BioStudio-T	CytoSmart2	ZENCELL OWL	Lionheart FX	Incucyte S3
Image						
Dimensions	195(W)x305(D)x190(H)	300(W)x 345(D)x 345(H)	90(W)x133(D)x100(H)	180(W)x180(D)x105(H)	455(W)x465(D)x358(H)	450(W)x478(D)x320(H)
Automatic stage	O	X	X	X	O	X
Focusing	Auto	Auto	Manual	Manual	Auto	Auto
Magnification	4x	4x / 10x	10x	10x	4x ~ 100x	4x / 10x / 20x
Image size	High: 5MP Normal: 1.25MP	1.3MP	0.9MP	5MP	1.25MP	1.7MP
Field of view	1.3x1.0 mm	1.69x1.35mm (4x)	2.40x1.40 mm	1.2x0.9 mm	-	4.34 x 3.25 mm (4x)
Exported formats	TIFF/JPEG/PNG/AVI	TIFF/JPEG/BMP	JPEG/AVI	JPEG/BMP/PNG	TIFF/JPG/BMP/PNG/ EMF/GIF/MP4/WMV	JPEG/PNG/TIFF/WMV AVI/MPEG-4
End user price	$19,500	$67,400	$13,000	$23,050	$84,000	$302,522

Thank you

End of Documents

Curiosis Inc. | 10, Teheran-ro 38-gil, Gangnam-gu, Seoul 06221, South Korea | T: 82 2 508 5237 F: 82 2 508 5246