

Omni

Analyzes like nobody
else (s)can



bringing out the best





Challenging researchers to bring out their best

CytoSMART™ Technologies is a Dutch company based in the tech-hub of Europe, Eindhoven. We introduce new smart devices into laboratories worldwide. We want to challenge every life science researcher to think differently and become the best in their field of expertise. CytoSMART believes that high-end innovative tools should be accessible by all those trying to be at the forefront of scientific discovery.

By working together, CytoSMART can help those at the cutting edge of life science research, to achieve greatness.

The smallest automated live-cell imager that fits within any incubator

The CytoSMART™ Omni is the first affordable automated live-cell imager that fits inside a standard cell culture incubator. It can acquire a bright-field scan of an entire well plate within 5 minutes and provides instant confluency analysis of your cultures.

The CytoSMART™ Omni is:

- + **Fast** - Faster than any automated live-cell imager ever seen
- + **Flexible** - Any type of culture vessel that fits within 94 x 132 mm can be scanned
- + **Compact** - It fits in any cell culture incubator





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The world's fastest live-cell imager

The CytoSMART™ Omni can acquire a bright-field scan of 94 x 132 mm within 5 minutes (Figure 1). Not only the scan is fast, setting up your experiment is also done within a few minutes, after which the CytoSMART™ Omni does the work for you.

This allows you to quickly set up your experiment and walk away, so you can spend your precious time on data analysis instead of obtaining data.

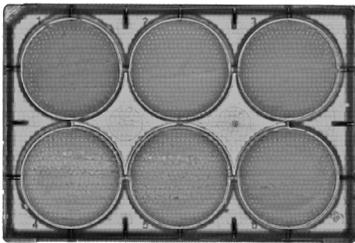


Fig. 1: well plate

Versatile

The large optical window of the CytoSMART™ Omni enables you to easily visualize any well plate, culture flask, petri dish, microfluidic chip or other culture vessel (Figure 2). As long as it fits within the scan area and is lower than 55 mm because of the space between the optical window and the light arc.

You can simply monitor the health of the cells in your flask/dishes, or conduct a wide variety of assays in a 96-well plate.

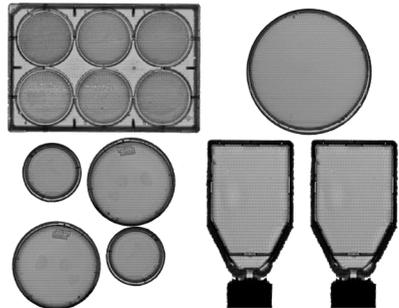


Fig. 2: The versatile CytoSMART™ Omni can scan a variety of cell culture vessels.



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Optimum culture conditions

The CytoSMART™ Omni is so compact, it easily fits inside any cell culture incubator. This enables you to perform your experiment at the optimum culture conditions for your cells. The CytoSMART™ Omni can even scan your samples cultured inside a hypoxia incubator.

Your colleagues will like this device too, since it is so compact that there is still space left in the incubator for their cell cultures.





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Higher accuracy

The large area scan acquired by the CytoSMART™ Omni, is captured by moving the optics instead of the sample. The Omni hardware is designed to make the scanning process highly repeatable, increasing the accuracy of your time lapse data.

It also enables you to perform experiments with sensitive or non-adherent cells, since your cells are undisturbed throughout the duration of the experiment.



Easy to use

The intuitive Omni app allows anyone in your lab to use the CytoSMART™ Omni without extensive training. Just place the device inside your cell culture incubator, connect it to a computer and start the Omni app (Figure 3).

Place your culture vessel on the optical window of the Omni, focus, set the time interval and you are ready to start your experiment.

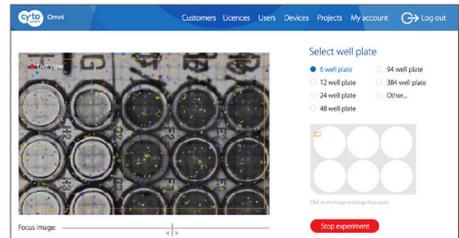


Fig. 3: Omni app



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Instant confluency analysis

The Omni app then generates a stitched image of the entire scanned area. When using well plates, you can also choose to generate stitched images for each well separately, after which the confluency of each well is automatically analyzed using our integrated confluency analysis software.

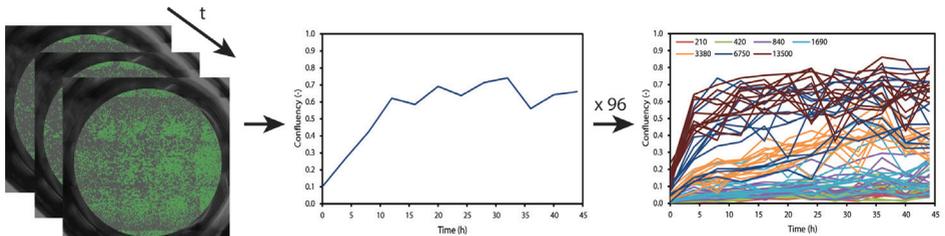


Fig. 4: The CytoSMART™ Omni software automatically analyses confluency over time and generates a timelapse graph for each well. The graphs of all wells can also be view at once.

Applications

Using the integrated confluency analysis software, you can perform apoptosis, proliferation and cytotoxicity experiments in just a few clicks.

Using commercially available image analysis programs (e.g. Matlab, ImageJ, Python) you can use the images obtained with the CytoSMART™ Omni for applications such as migration, colony picking, neurite formation and angiogenesis.



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Specifications

Scan time	5 min
Weight	9 kg
Scan area	94 x 132 mm
Magnification	100x
Imaging mode	Bright-field
Single image resolution	960 x 960
Full scan resolution	50,000 x 70,000
Exported formats	png, csv
Well plate types	6 – 96-well plates
Other labware	Anything that is lower than 55 mm
Light source	LED
Camera	5 MP CMOS
Unit dimensions	396 x 345 x 171 mm (LxWxH)
Operating environment	5-40 °C, 20-95% humidity

Interested? Contact us!

Ordering information

at #

Product

Quantity

XAB-1002

CytoSMART™ Omni

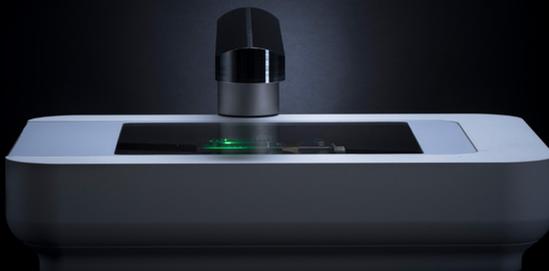
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