



PhoxyCube

OCR: Respiration Insights
for Open and Closed
Well Plate Cultures



Dear Max Mustermann

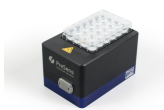
Parallel and label-free microrespiration measurements within well plates enables assessing the vitality status of your cells, (micro)-organisms or other biological samples during your culture. By determining OCR from your recorded oxygen data with the PhoxyCube, you can gain insights into mitochondrial energy metabolism of your samples.

And we show examples and ways to calculate oxygen consumption rate (OCR) in open or closed systems online, throughput, statistics ... The [PhoxyCube](#) takes your analysis to a new level!

Your PreSens Team

PhoxyCube & PhoxyPlates

PhoxyCube



The [PhoxyCube](#) allows O₂ & pH monitoring with different well plate formats during culture.

The PhoxyCube system is controlled with an intuitive software that has features like grouping of wells or color coding, and shows measurement data in real time in graphic representations.

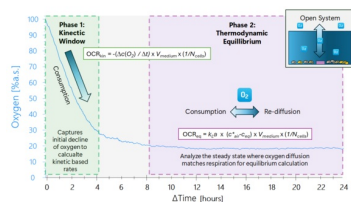
PhoxyPlates

The PhoxyCube is used with our ready-to-use disposable [PhoxyPlates in 24-well plate format](#) with both oxygen and pH sensor, or with 96-well plates with either [oxygen](#) (DO; 0 – 100 % air saturation) or [pH](#) (5.5 – 8.0 pH) sensors. The sensors are integrated at the bottom of each well and measurements are taken in parallel and over time, non-invasively and in real time through the transparent well bottoms.



Application Examples

Oxygen Consumption Rate Measurements of MDCKII Cells - Determining OCR in open cell Culture systems with 96 well PhoxyPlate & PhoxyCube



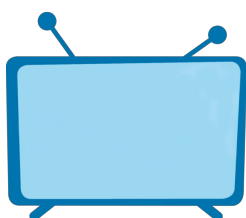
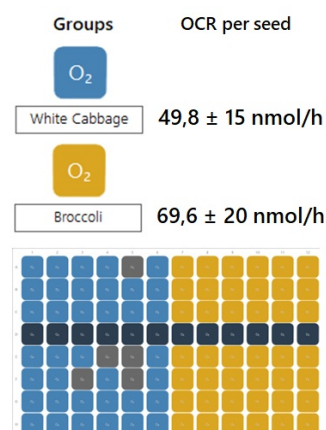
Cells are often viewed as tiny biological engines. Like any engine, they require fuel and oxygen to function. When we grow cells in a laboratory - specifically in an 'open system' like a 96-well plate - we witness a fascinating dynamic: a constant competition for oxygen. On one side, the cells are 'breathing' it in; on the other, the surrounding incubator air is trying to refill the supply through the medium's surface. Monitoring oxygen levels isn't just about cell survival; it is also a window to cell health.

>> [Read the entire application note!](#)

Oxygen Consumption Rate Measurements in Closed Microrespirators - 96 well oxygen consumption measurements using PhoxyCube & PhoxyPlate

A 96-well plate PhoxyPlate having oxygen sensors in each well is closed with aluminum plate seal film. Together with the PreSens PhoxyCube this is a 96 channel micro-respiration array for high throughput parallel OCR measurements. As isolated from ambient gas exchange, it is well suited for respiration studies: comparative phenotyping, dose-response testing, temporal kinetics, and population heterogeneity assessments. Each well thereby can act as an independent respirometer, enabling simultaneous, time-resolved online measurements across treatments, genotypes, or environmental conditions with minimal cross-contamination.

>> [Read the entire application note!](#)



... and do **NOT MISS** our very practical software video:

The [tutorial](#) "How to Use the PhoxyCube Reader Software" shows how to use the PreSens PhoxyCube Reader Software and get started with O₂ and pH measurements in multiwell plates.

ASK the EXPERT!

You want to discuss your application with our product specialist ... or do you want to find out more about the device?

Feel invited to contact [Dr. Robert Meier](#) !



You would like to learn even more about PreSens Precision Sensing? Please visit our homepage www.presens.de and don't hesitate to contact us. Any feedback will be appreciated.

With kind regards

Christina Schlauderer
Communications

PreSens Precision Sensing GmbH

Am BioPark 11 - 93053 Regensburg - Germany

Phone +49 941 942 72 100, Fax +49 941 942 72 111

christina.schlauderer@presens.de, www.PreSens.de

Trade Register Ingolstadt HRB 101505, CEO: Achim Stangelmayer

[Click here to unsubscribe.](#)