

# DolphinQ

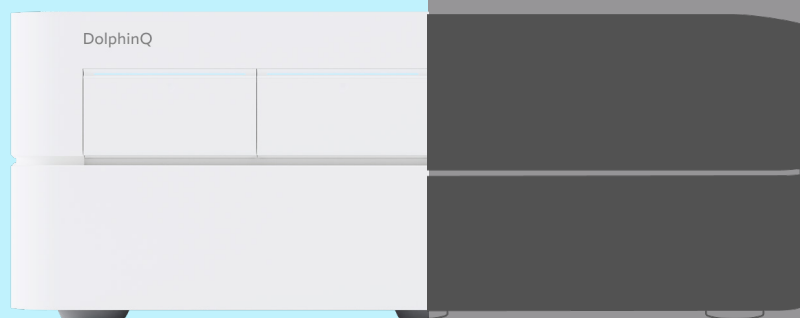
## DolphinQ Mini

Continuous DO/pH/OCR/ECAR  
metabolic profiling across the full  
culture period



The Leadgene metabolic analyzer family includes DolphinQ and DolphinQ Mini. Both all-in-one platforms combine real-time DO, pH, OCR, and ECAR sensing with controlled incubation and integrated mixing for unbiased metabolic readouts.

## DolphinQ DolphinQ Mini



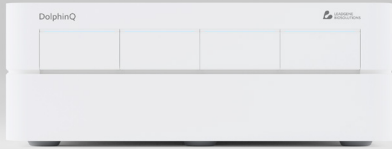
## Traditional Snapshot

- ④ Longitudinal metabolism data
- ④ Continuous real time monitoring
- ④ High throughput independent incubation

- ⊗ Multiple pre-determined but blinded timepoints
- ⊗ End point measurement
- ⊗ Sacrificing cells/rare samples



## DolphinQ



## DolphinQ Mini



## Long-term metabolism analyzer



Cellular metabolism is inherently dynamic, requiring continuous, long-term observation rather than endpoint snapshots. DolphinQ reveals metabolic behavior in its true physiological context.



Patented 96/24-well  
plate mixing



Independent  
controlled incubation



DO/pH/OCR/ECAR  
metabolic monitoring

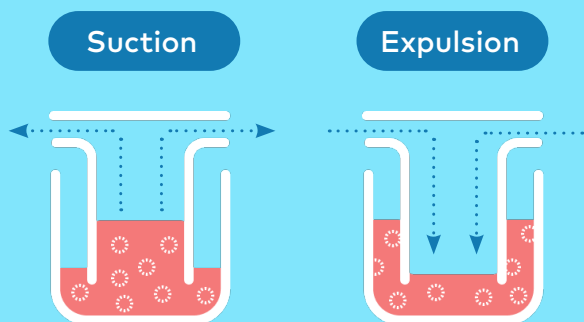


## Beyond snapshots:

Continuous, real-time tracking of cellular metabolism enables long-term, non-disruptive analysis of respiration and glycolytic shifts within the culture system.

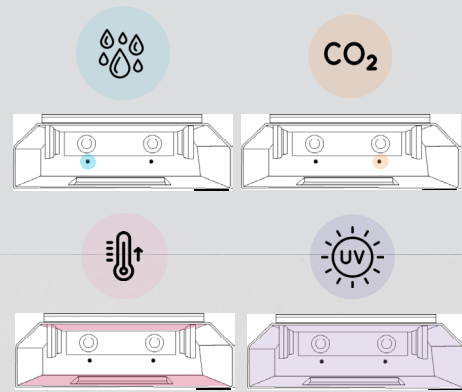
### Mixing system

Air-induced suction and expulsion enable efficient pneumatic mixing in standard 96/24-well plates.

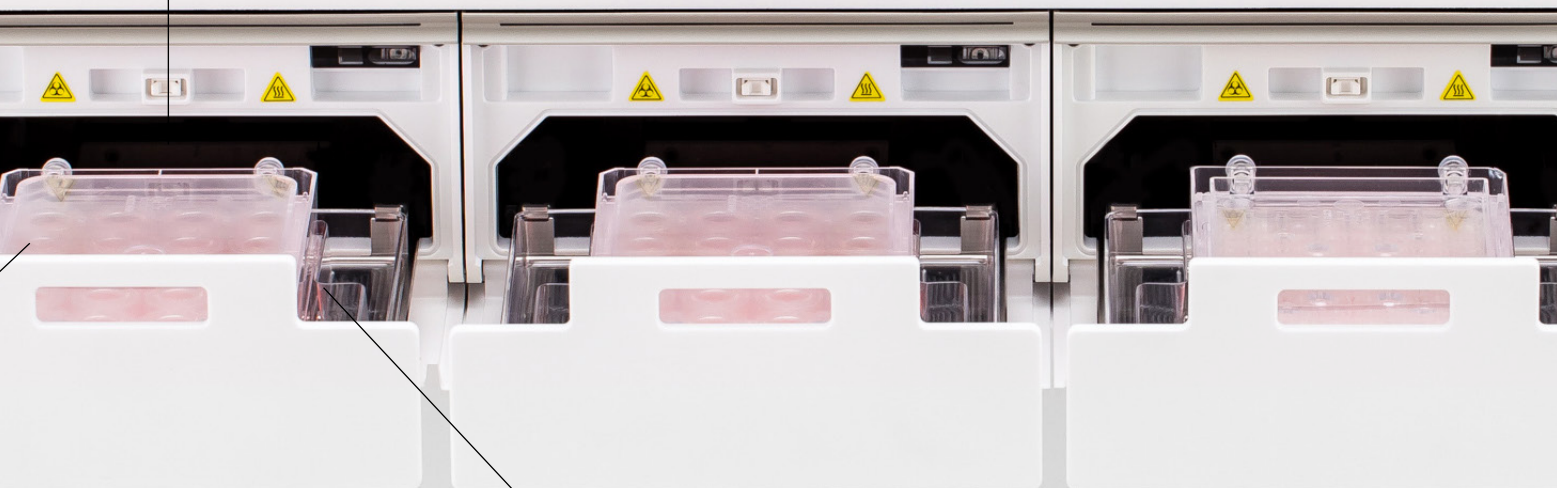


Four independent incubation chambers

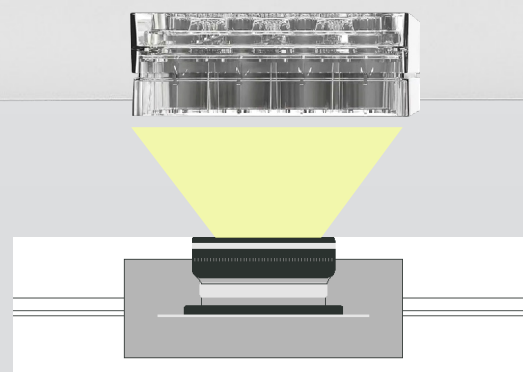
- ↳ Disposable water reservoir
- ↳ Temperature control
- ↳ CO<sub>2</sub> level control
- ↳ Humidity monitoring
- ↳ UV light sterilization



minQ



Sensor plate

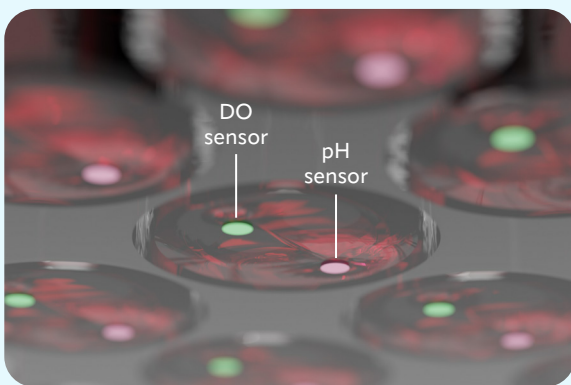


Camera module

Real-time detection of cell metabolism across the entire 96/24-well plate.



# Unlocking True Real-Time Metabolic Monitoring



Do/pH optical sensors are placed inside each well where a camera module below will capture the signals.

Every 10 minutes measurements are taken non-invasively, allowing for the analysis without disruption, sampling, or contamination.



DO => OCR  
(Oxygen Consumption Rate)

- ↘ The amount of oxygen consumed by cells
- ↘ Mitochondrial aerobic respiration and ATP production

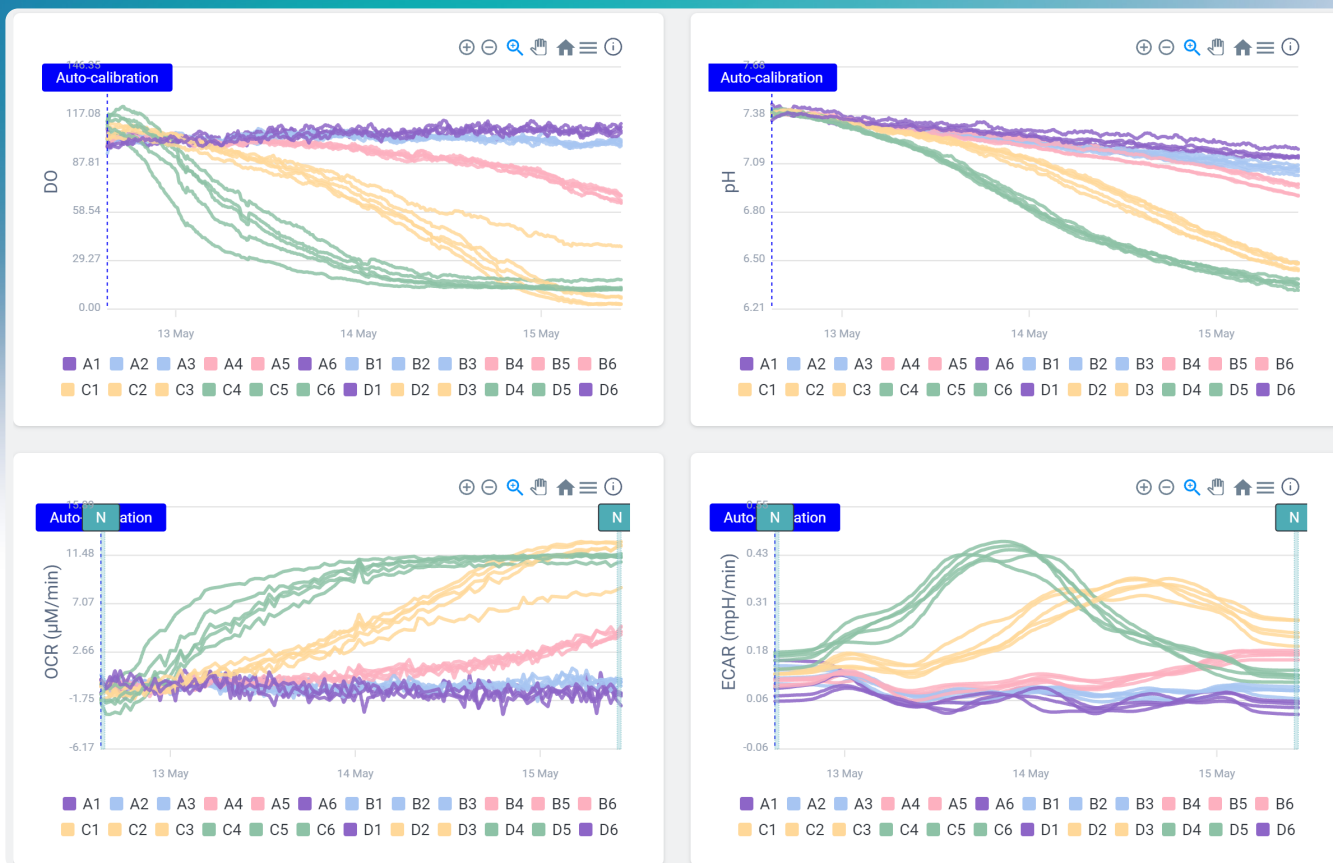


pH => ECAR  
(Extracellular Acidification Rate)

- ↘ The rate of acid (e.g., lactate) production by cells
- ↘ Energy production through glycolysis



All metabolic readouts are recorded as continuous time-series data, enabling direct comparison of dynamic metabolic responses across conditions.



24-well plate single well



DO and pH sensors

96-well plate single well



DO or pH sensors



# Analyzer in a Incubator with Tailored Mixing to Enable Longitudinal Data



## Independently Controlled Incubation Environment

Ensures cell health for any downstream assay afterwards

Allows precise pauses for manipulation at your chosen timepoint

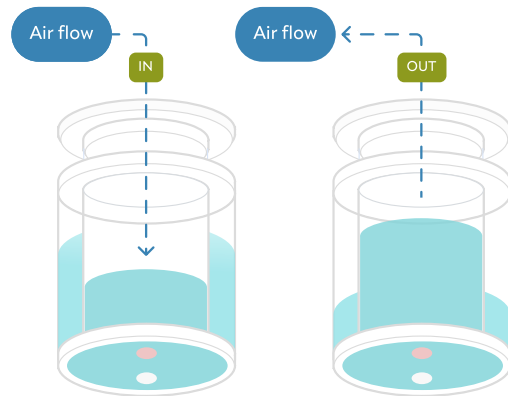
Each chamber with independent settings and start/stop schedules

Use your regular culture medium—no need for special formulations





DolphinQ applies suction or expulsion pressure through patented lids, enabling reciprocating "in-well" mixing for both 96 and 24-well plates



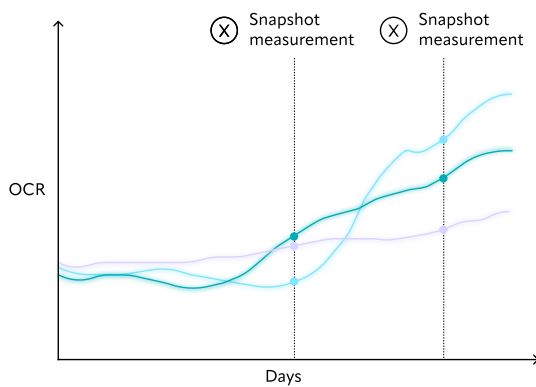
## Patented Reciprocal Mixing Technology

- ④ Programmable mixing for diverse cell culture models
- ④ Reduces gradients for location-independent sensor readouts
- ④ Supports sustained cell growth with healthier culture conditions

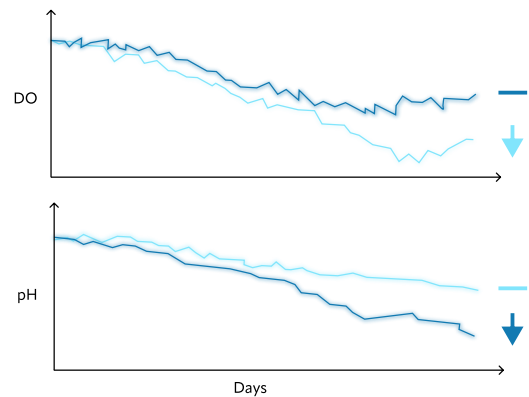


# From Capabilities to Impact: Application Examples

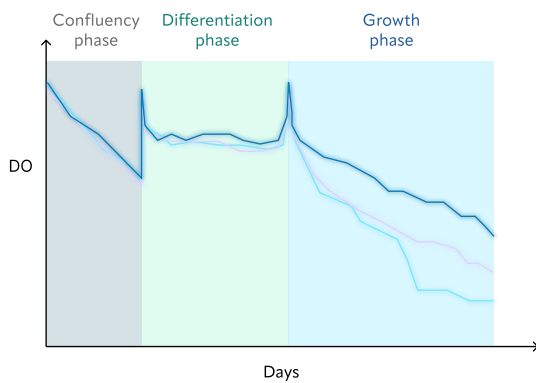
Capture the full course of metabolic profiles across culture time



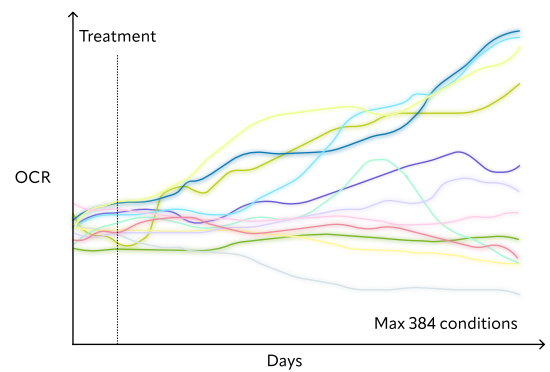
Monitor metabolic shifts between mitochondrial respiration and glycolysis



Design sequential experiments all in one plate: e.g. cell differentiation to treatment, live pathogen exposure observations



Optimize and screen key parameters: e.g. seeding density effects, gene edits, compound libraries, media compositions, drug dosage





## DolphinQ Mini

Compact solution for single-experiment workflows

## DolphinQ

Parallel, multi-chamber metabolic studies

//

DolphinQ enables longitudinal, high-resolution metabolic profiling, tracking OCR, ECAR, DO, and pH dynamically under physiological and stress conditions. This real-time insight directly addresses our key pain point—capturing the temporal dynamics of mitochondrial function in disease-relevant cardiomyocytes.



# CELLULAR INTELLIGENCE



---

info@cellai.bio  
www.cellai.bio

*This communication contains general information only, and neither Cellular Intelligence, Inc. nor its advisors, partners, employees or consultants is by means of this communication, rendering professional advice or services. Cellular Intelligence shall not be responsible for any loss whatsoever sustained by any person who relies on this communication.*

© Cellular Intelligence. All rights reserved.