



## NEW LiCellMo

**Continuous, sample-free measurement of glucose and lactate in culture medium. Visualize real-time changes in cell metabolism.**

Cells are constantly growing and differentiating, and those processes are known to be closely linked to metabolism. In the field of cancer immunology, stem cell research, and the development of manufacturing processes for cell-based formulations, understanding the metabolic state of cells is a factor of ever-growing importance in the analysis of cell activation and disease. Continuous analysis of cell metabolism offers the ability to visualize the state of cells in real-time, creating opportunities for unprecedented new discoveries in cell metabolism. The PHCbi Live cell metabolic analyzer will open new doors to those discoveries.

Cancer  
research

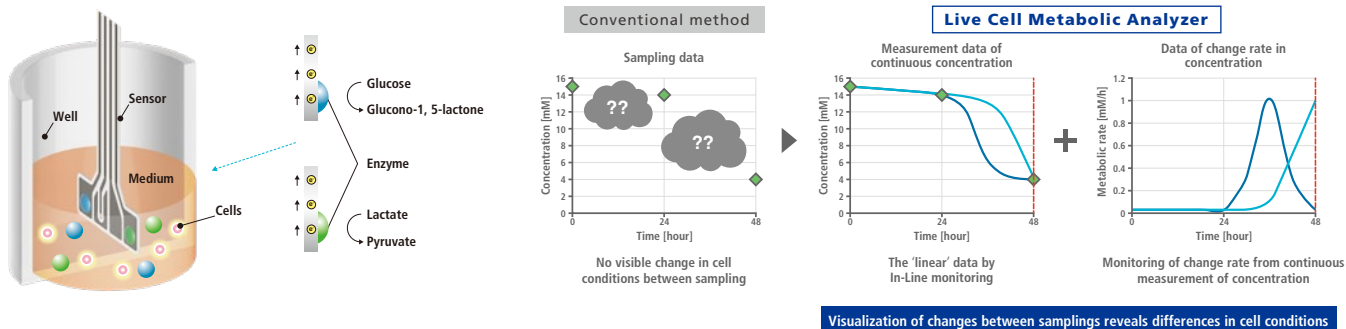
Immunology  
research

Stem  
cell  
research

## In-Line sensors: the key to continuous measurements of glucose and lactate

The glycolytic pathway is one of the main components of cellular energy metabolism. During glycolysis, glucose is taken up into cells and lactate is produced. Conventional analysis of cell metabolism typically involves estimating glucose and lactate concentrations from data points obtained from periodic sampling. With its unique high-precision In-Line sensors, the PHCbi Live cell metabolic analyzer offers these unique advantages:

- real-time monitoring of glucose and lactate concentrations
- continuous measurements
- no sampling of the culture medium and the same cells can also be used for separate evaluation after measurement



## Measure cells in their preferred culture environment

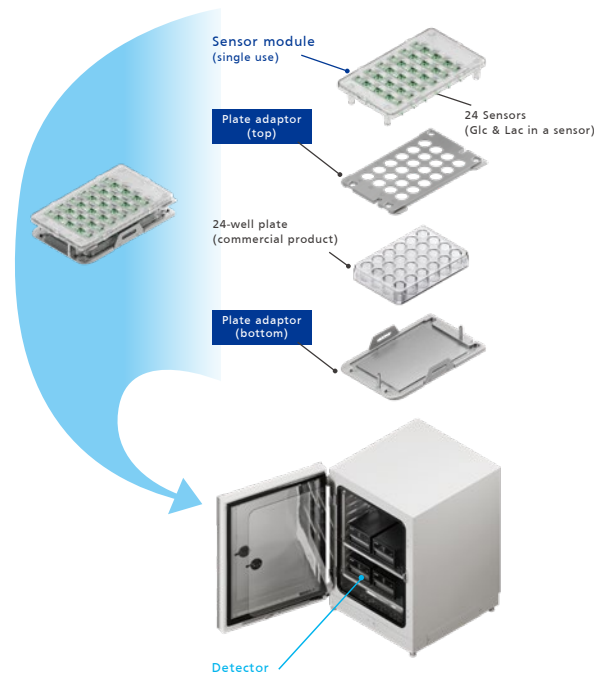
The simple design of the PHCbi Live cell metabolic analyzer makes it suitable for any laboratory space. Plus, there is no need for specialized cell culture equipment. Common commercial products (culture medium, 24-well plates, calibration liquid, additive reagents) can be used for cell culture.

The Sensor module and Plate adaptor can be attached to a standard 24-well plate. Then, once the plate is placed in the Detector pre-installed within the CO<sub>2</sub> incubator, real-time measurements can be checked easily using the touch-panel controller.

Optional plate adapters for five different commercial 24-well plates are available.

## Evaluate glycolytic changes directly

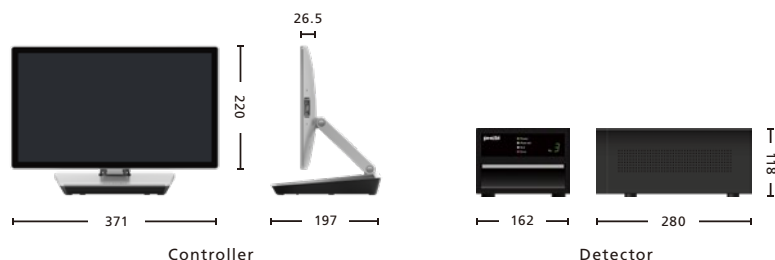
Changes in the glycolytic pathway can be evaluated directly by measuring the culture medium concentrations of glucose taken up by cells and lactate produced. With the PHCbi Live cell metabolic analyzer, the state of cell metabolism can be visualized as the rate of metabolic change using the consumption rate and production rate based on concentration values. Monitoring the efficiency of conversion from glucose to lactate makes it possible to evaluate not only glycolysis, but also changes in the balance with other cellular metabolic processes, such as oxidative phosphorylation.



## Specifications

Product summary	Items monitored	Glucose, lactate (simultaneous continuous measurement of both items)	Detector	External dimensions	Width 162 mm x Depth 280 mm x Height 118 mm
	Main device components	Controller, Detector, Plate adapter (optional product)		Installation	Inside CO <sub>2</sub> incubator
	Main consumables	Sensor module (single use)	Controller	External dimensions	Width 371 mm x Depth 197 mm x Height 220 mm
	Compatible plates	24-well plate *Compatible with 5 commercial products		Screen	12.1-inch-wide touch panel display
	Monitoring duration	Maximum 10 days		Extendability	Wired connectivity for up to 4 detectors
	Measurement range	Glucose: up to 27 mM (up to 4.9 g/L) Lactate: up to 15 mM (up to 1.4 g/L)		*Product currently under development. Specifications of the final product may differ. *For research purposes only.	

## External view and dimensions (mm)



**PHCbi**

PHC Corporation of North America  
1300 Michael Drive, Suite A, Wood Dale, IL 60191  
Toll Free USA (800) 858-8442, Fax (630) 238-0074  
[www.phc.com/us/biomedical](http://www.phc.com/us/biomedical)