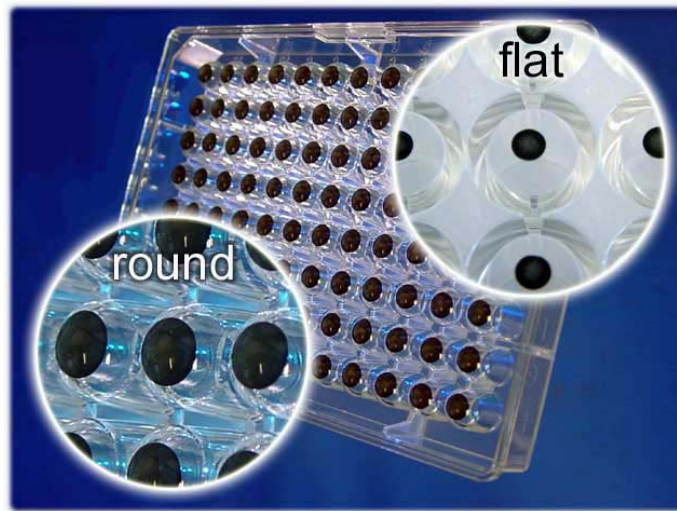


HydroPlate®

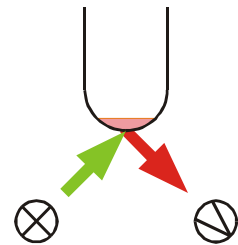


The microplate that measures pH

- Enzyme Screening
- Monitoring of Cell Proliferation
- Starter Cultures
- Homogenous Assay
- Fast results

HydroPlate®'s Principles

- HydroPlate® has 96 integrated **pH-sensor** layers immobilized on the bottom of each well (read out from bottom side).
- HydroPlate®'s sensor contains two different dyes in a constant ratio. One dye is sensitive to oxygen the other one gives a stable signal.
The resulting signal is **internally referenced**.
- HydroPlate®'s referenced signal reduces significantly the deviation from well to well.
HydroPlate is **calibration-FREE**.



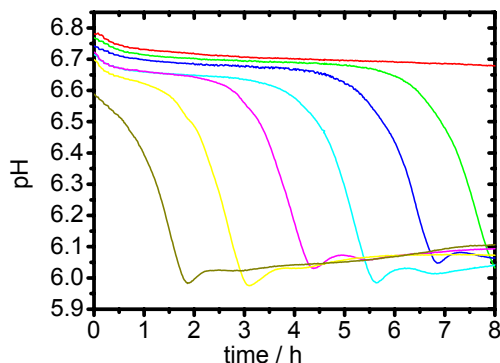
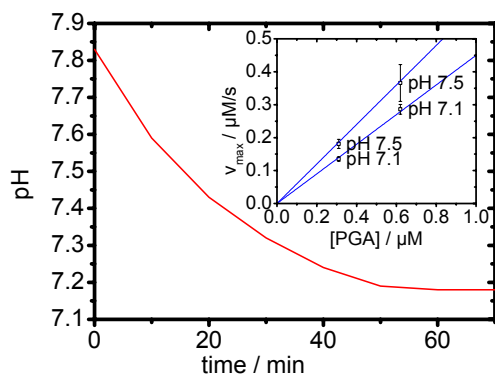
Schematic view of a well with integrated oxygen sensor



Applications

Screening the Enzyme reactions

HydroPlate® monitors enzymatically catalyzed reactions. The large figure (right) shows the measured pH-change of one experiment during hydrolysis of an ester catalyzed by Penicillin-G-acylase (PGA). From these pH-changes the enzymatic activity can be calculated. The small graph shows the linear dependency of enzyme concentration and activity measured with HydroPlate. Also different starting pHs can be compared using HydroPlate®.

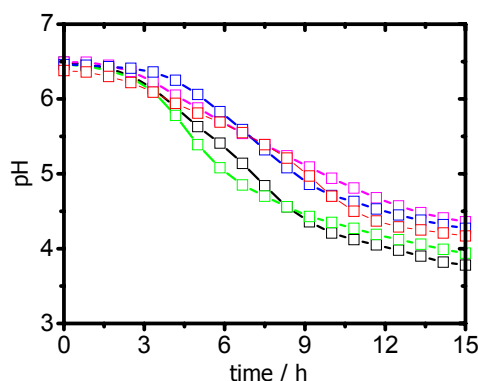


Screening the proliferation of cells

HydroPlate® measures pH changes due to the growth and metabolic activity of cells. The picture depicted on the left side shows the growth of different concentrations of *E. coli*. Each dilution was ten-fold lower concentrated. The beginning of the pH decrease could be stated in a period of 1.25 h between each measurement.

Screening the Dairy Starter Cultures

HydroPlate® measures changes after adding *Lc. Lactis* to milk samples. Even in this self-fluorescent and light scattering media HydroPlate® HP96U measures pH changes accurately. From the comparison to measurements with pH-electrodes it is concluded that HydroPlate® HP96U can be used reliably to characterize particularly a large number of strains for screening purposes but also for quality control.



Technical Specifications

Measuring range	pH 5.0 – pH 8.0	
Resolution (at 37 °C)*	up to 0.01 pH*	
Accuracy (at 37°C)*	up to 0.05 pH*	
Temperature range	15 – 45 °C	
Response time (t₉₀)	< 30 sec	
Indicator filters	485 / 538 nm	
Reference filters	485 / 620 nm	
Types of plates offered	HydroPlate® HP96U	HydroPlate® HP96C
	96 well round bottom	96 well flat bottom
	Standard / Best signals	For Cell Culture
Order Code	B011022-32013	B011022-32011

* performance dependent on used reader, provided constant salinity