

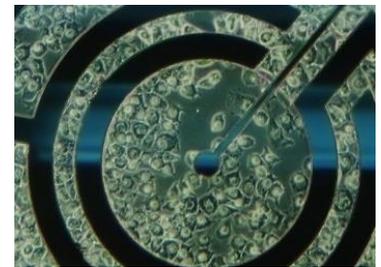
cellasys #8

A standardized assay for successful detection of serum-free media formulations within 24 hours

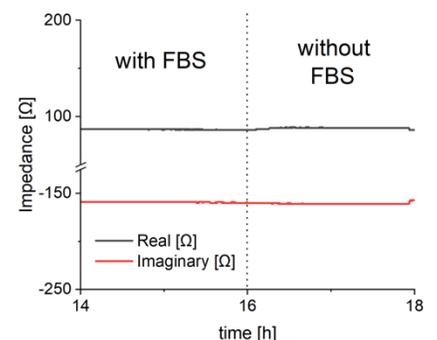
The evaluation of new cell culture media is usually conducted via weaning experiments, which require several weeks to acquire results for new media formulations. To accelerate the identification process and, hence, the successful development of new media formulations, the cellasys #8 assay measures metabolic and morphological parameters and provides results within 24 h to evaluate a chemically defined medium formulation.

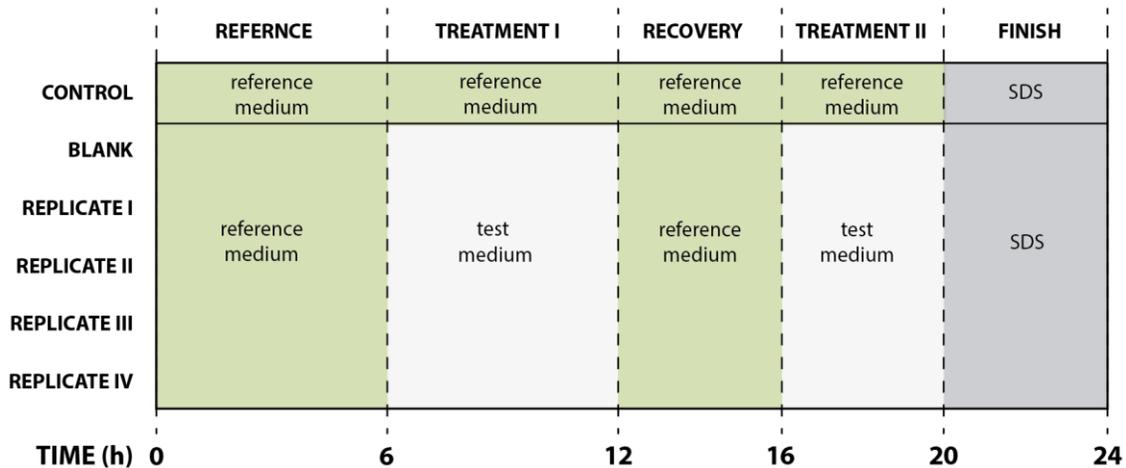
An automated microphysiometry approach to measure and analyze the energy metabolism

The cellasys #8 assay is the only standardized protocol based on label-free and continuous measurement of metabolic and morphological parameters to identify serum-free media formulations. The miniaturized microsensors of the biochip allow marker-free measurements of impedance and acidification to read out changes in cell adherence and vitality in real time with fully automated and integrated media change.¹ The protocol is a periodic perfusion protocol with perfusion and medium stop at five-minute intervals. By means of the integrated fluidics, the changeover to a newly developed cell culture medium can be examined in an automated and standardized manner. This setup thus allows the evaluation of two decisive features: On the one hand, the treatment or the changeover to the new medium is examined. On the other hand, the recovery phase is evaluated after switching back to the reference medium.



- Label-free and continuous measurements in real-time
- Automated and standardized protocols
- Direct measurement of energy metabolism





Transition from DMEM with FBS to a serum-free alternative using L929 cells

The cellasys #8 assay successfully identified a serum-free medium alternative for L929 cells.² When switching from DMEM with FBS to the chemically defined DME / F12 + ITS medium, the assay did not detect any changes in the metabolic as well as morphological parameters.³ This suggests that the adherence of the cells does not change during the treatment and the recovery phase compared to the control.

Literature

- 1 Weiss et al. (2013). Label-free monitoring of whole cell vitality. In 2013 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC): 1607-1610.
- 2 Klenk et Wiest (2021). cellasys #8: A microphysiometric assay to assess enhanced cell culture media, ALTEX Proceedings, 2021, 9, 1, 207.
- 3 Weber et al. (2021). Chemically defined cell culture media – a contribution to address the reproducibility crisis in biomedical sciences, ALTEX Proceedings, 2021, 9, 1, 262.



Free step-by-step video protocol

The video highlights the preparation, implementation and evaluation of the cellasys #8 and gives your insights into the technology.



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Learn more about cellasys #8 and how to improve your productivity in detecting new media formulations.

<https://www.cellasys.com/downloads/cellasys-8>