



Real-Time Monitoring for 3D Cell Systems

3D cellular systems mimic a more physiological environment than conventional 2D culture systems, but they are difficult to monitor without destroying the tissue. We offer non-invasive, real-time monitoring that combines recent scientific advances for spheroids, organoids, and chips – so you can make earlier, better go/no-go decisions for drug discovery, toxicity, and disease models.

BACKGROUND

Two-dimensional cultures miss key aspects of human biology such as tissue architecture and cell-cell communication. In recent years, 3D cell culture systems have become very popular because they are more predictive, but they also introduce system complexity, technical noise, and – when readouts exist – live imaging can be phototoxic, shallow, or too slow for routine QC. Many readouts remain destructive, low-throughput, or difficult to standardize across differentiation levels. In short, industry needs robust, low-burden monitoring that can see inside 3D systems without touching them.

TECHNOLOGY

Our approach delivers continuous, non-invasive monitoring that is fully compatible with 3D cell systems, helping you establish multi-cell-type 3D models to investigate complex cellular responses to environmental factors.

Our monitoring tools allow users to track the viability and behavior of individual cell populations in real time. The result is quantitative traces of cell abundance and responses to environmental factors over time, enabling earlier intervention, better comparability, and reduced assay attrition. The underlying methods have already been demonstrated at proof-of-concept level.

OFFER

We are looking for company partners to co-develop a monitoring solution around industrially relevant models.

Typical outcomes include earlier quantitative decision points, fewer destructive assays, and higher reproducibility across sites.

Ready to see the uplift on your platform? Share your target, matrix, and readout, and we will return a focused scoping brief with recommended constructs and workflows.

EXPERTS

Dr. Johanna Fischer

DEVELOPMENT STATUS:

Technology Readiness Level 3
(Proof-of-Concept achieved)

KEYWORDS

- 3D cell systems
- Organoids
- Spheroids
- Organ-on-a-chip
- Non-invasive monitoring
- Real-time monitoring
- Label-Free analytics
- Application-specific engineering
- Reproducibility

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