

## **Anticipated Science and Technology – Microphysiological Systems**

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Three-dimensional organotypic culture systems (e.g., tissue chips, 3D cultures, microphysiological systems or MPS) are designed to more accurately reflect the complex cellular structure and physiology of human organs such as the lung, intestinal tract, liver, and heart. Once confidence has been established in these systems through analytical validation and translational qualification, researchers and regulators hope to use these devices to assess the biological and toxicological activity of pharmaceutical products and environmental chemicals. However, there is considerable debate regarding the best path to establishing confidence in these systems. This talk will outline key elements of a strategy needed to establish confidence in, and effectively employment of, MPS in human risk assessment.