

## Media Release – For Immediate Distribution

### InSphero Launches 3D Mitochondrial Toxicity Testing Service

***New contract screening offering combines advanced 3D liver microtissue models and Agilent XF<sup>e</sup>96 Analyzer to identify mitochondrial liabilities for drug safety testing market.***

**Schlieren, Switzerland – Sept 7, 2016** – [InSphero AG](http://www.insphero.com), the leading supplier of easy-to-use solutions for production, culture, and assessment of organotypic 3D cell culture models, has launched a new service, [3D InSight™ Mitochondrial Toxicity Testing](#), for the identification of mitochondrial liabilities during drug development and safety testing. Data characterizing the mitotoxicity assay was presented Tuesday at [EUROTOX 2016](#), the 52<sup>nd</sup> Congress of the European Societies of Toxicology.

Mitochondrial toxicity is a major adverse mechanism of toxicity for many drugs assigned black box warnings. When cells encounter stress, such as exposure to toxic drugs, they utilize reserve respiration capacities, which are quantified in the assay as spare respiratory capacity (SRC). A decrease in SRC is one of the first detected consequences of mitochondrial impairment, and the assay compares dose-dependent changes in SRC and cellular viability to assess the likelihood a drug will impair mitochondrial function.

The new service combines the organotypic liver functionality and 28-day *in vitro* lifespan of [3D InSight™ Human Liver Microtissues](#) with state of the art analysis of mitochondrial respiration using the Agilent XF<sup>e</sup>96 Analyzer. The long-term metabolic competence of 3D liver microtissues enables flexible drug exposures of up to 14 days, while the XF<sup>e</sup>96 Analyzer allows assessment of mitochondrial function through sensitive and precise measurement of cellular oxygen consumption rate (OCR) on a single microtissue level.

Dr. Jens M. Kelm, InSphero Chief Technology Officer and Co-founder, says the service capitalizes on the *in vivo*-like biology of 3D human liver microtissues. Kelm says, “Mitochondrial SRC serves as the cell’s energy safety net, a reserve that helps cells respond to stress. When grown in 3D, primary human liver cells have a 4-times greater SRC than when grown in 2D. Using 3D microtissues in the assay not only enables us to expose primary human liver cells to drugs for up to 14 days, but also to measure the drug’s impact on mitochondria in a model that more accurately reflects the cellular response to stress *in vivo*. By comparing the cellular viability to the mitochondrial function after drug treatment, we can determine if mitochondrial impairment is more likely the primary mechanism of toxicity, or rather a secondary effect.”

A tutorial featuring the 3D InSight™ Mitochondrial Toxicity Service is scheduled to appear in the September 15<sup>th</sup> issue of *Genetic Engineering and Biotechnology News (GEN)*. It is the latest addition to InSphero’s suite of [3D InSight™ In Vitro Toxicology Services](#), utilized by the world’s largest pharmaceutical and chemical companies to evaluate drug safety.

For more information about InSphero, visit [www.insphero.com](http://www.insphero.com).

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InSphero AG  
Wagistrasse 27  
CH-8952 Schlieren  
Switzerland  
Tel: +41 (44) 515049-0  
Fax: +41 (44) 515049-1  
[www.insphero.com](http://www.insphero.com)

Dr. Randy Strube  
Director of Global Marketing  
Phone +1 800-779-7558 ext. 102  
[randy.strube@insphero.com](mailto:randy.strube@insphero.com)

Dr. Jens M. Kelm  
Chief Technology Officer and Co-founder  
Phone +41 44 5150490  
[jens.kelm@insphero.com](mailto:jens.kelm@insphero.com)

## About InSphero

InSphero provides superior biological relevance to *in vitro* testing with its easy-to-use solutions for production, culture and assessment of organotypic 3D cell culture models. The company's patented [technologies](#) include the 3D Select™ Process (pending) and scaffold-free 3D cell culture plates that enable large-scale, reproducible production of a broad range of assay-ready 3D InSight™ Microtissues derived from liver, pancreas, tumor, heart, brain, and skin. These models and contract research services utilizing them help to identify promising drugs and toxic liabilities with greater predictive power at early development stages, enabling better pre-clinical decision making, saving development cost, and shortening time to market. InSphero technologies drive significant findings in [peer-reviewed journals](#), through collaborative projects such as [EU-ToxRisk](#) and [HeCaToS](#), and have gained validation in the world's largest government institutions and pharmaceutical, chemical and cosmetics companies. This 3D know-how is also being applied in the diagnostics field to aid development of personalized chemotherapeutic strategies for the treatment of cancer.

Founded in 2009, the privately held company is headquartered in Schlieren, Switzerland with subsidiaries in the United States (Brunswick, ME) and Waldshut, Germany. It has been recognized for its scientific and commercial achievements with a number of national and international [awards](#).

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