

Media Release – For Immediate Distribution

InSphero achieves new milestone with Akura™ Flow organ-on-a-chip technology in low-clearance drug study

Government research project to predict hepatic clearance of drugs in humans using Akura™ Flow system results in development partnerships with top pharma companies.

Schlieren, Switzerland – October 11, 2018 InSphero AG today announced that it has successfully completed a collaborative project with the [FHNW](#) University in Switzerland to develop a 3D organ-on-a-chip assay for predicting metabolic stability of low clearance compounds in pharmaceutical drug development. The one-year project was funded by [Innosuisse](#), the Swiss Innovation Agency.

Low intrinsic clearance, a pharmacokinetic measure of how efficiently or rapidly a compound is eliminated from the body, is a frequent goal of drug discovery projects that seek to reduce dose, enhance exposure, and prolong half-life of drug candidates. Generating accurate *in vitro* clearance data that reliably predicts drug clearance in humans, however, has proven challenging due to limitations of traditional 2D hepatocyte models and metabolic stability assays.

FHNW Professor of Molecular Toxicology Dr. Laura Suter-Dick says, “2D hepatocyte models are not metabolically active long enough in culture to accurately predict intrinsic clearance of slowly metabolized compounds. With InSphero’s [3D InSight™ Human Liver Microtissues](#), which are highly standardized, long-lived 3D *in vitro* models composed of the primary human liver cells necessary for core metabolic functions of the liver, we were able to develop an advanced *in vitro* assay for investigating and predicting hepatic clearance of drugs in humans.” To optimize the performance of the assay, the collaborative project team applied InSphero’s novel [Akura™ Flow](#) microphysiological system, which allows for up to ten human liver microtissues to be loaded in a single channel to increase the cell-to-media ratio by up to ten fold.

InSphero Head of Technologies and Platforms Dr. Olivier Frey says, “This successful application of our Akura™ Flow platform underscores the importance of using proven, fit-for-purpose biological models in emerging organ-on-a-chip systems. It is an excellent example of how our enabling 3D technology and physiologically relevant models consistently deliver robust, reliable, and reproducible results.” Based on promising data from this innovation project, InSphero has partnered with top pharma companies in Europe and US to further evaluate and benchmark the assay and test low clearance characteristics of drugs under development. InSphero is optimistic this approach will establish a new standard for low clearance assessment.

The new 3D InSight™ Low Clearance Assay will be available as a InSphero *in vitro* toxicology drug metabolism service starting in early 2019.

For more information about InSphero, visit www.insphero.com.



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About InSphero

InSphero is the pioneer of commercial 3D cell-based assay solutions and scaffold-free 3D organ-on-a-chip technology. It sets the standard for *in vitro* testing of novel drugs in the pharmaceutical and biotechnology industry with comprehensive solutions that provide greater confidence in decision making. Its robust and highly physiologically relevant suite of 3D InSight™ Platforms are used by major pharmaceutical companies worldwide to increase efficiency in drug discovery and safety testing. The company specializes in liver toxicology, metabolic diseases (e.g, T1 & T2 diabetes and NAFLD & NASH liver disease), and oncology (with a focus on immuno-oncology and PDX models). The scalable Akura™ 3D cell technology underlying the company's 3D InSight™ Discovery and Safety Platforms includes 96 and 384-well formats and the Akura™ Flow organ-on-a-chip system to drive efficient innovation throughout all phases of drug development.

For more information, visit www.insphero.com.

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