

## Media Release

# InSphero Launches 3D InSight™ Pancreatic Microislets for Diabetes and Toxicity Research

**Schlieren, Switzerland, May 28, 2014 – Recently published 3D human and rat “pseudo-islets” display long-lived, robust metabolic activity, offer convenient solution for islet transplantation, anti-diabetic drug development, and assessment of acute and chronic toxicity of the endocrine pancreas.**

InSphero AG today announced the launch of [3D InSight™ Human and Rat Pancreatic Microislets](#), further expanding the company’s catalog of organotypic 3D models produced using their patented [hanging-drop production technology](#). The product launch follows InSphero’s April publication of the microislets in the [Journal of Tissue Engineering and Regenerative Medicine](#), characterizing their physiological properties and potential for use in islet transplantation, as well as a convenient *in vitro* model system for drug development and toxicity studies.

Primary human and rat pancreatic islets are widely used as *in vitro* models for diabetes and metabolic disorders, but current harvesting and isolation methods result in tissue impurities, size heterogeneity, and damage to cells that negatively impact the robustness of data generated, and hinder their use as a high-throughput tool for drug discovery.

3D InSight™ Pancreatic Microislets solve the two major shortcomings of current methods used to isolate primary human or rat pancreatic tissue: inconsistent microislet size and heterogeneous cellular composition, both of which contribute to variations in data. Controlling size is very important, says Dr. Wolfgang Moritz, co-author of the publication and co-founder of InSphero: “As far as microislets are concerned, bigger is not better. Smaller microislets produce more insulin per cell than larger ones, and are subject to less oxidative stress during long-term culture.” Typically small islets must be tediously hand-picked for *in vitro* studies, a process that also wastes a lot of the donor material. “We’ve standardized the process and dramatically reduced waste by first dissociating the tissue and then allowing a defined number of cells to reassemble in the hanging drop platform. This results in “pseudo-islets” of remarkably consistent size, which is extremely important for cell viability, functionality, and to obtain the desired well-to-well consistency required for high-throughput applications.”

The cellular composition of each microislet tissue is also critical to ensuring their metabolic activity reflects that of native pancreatic islets. The InSphero process results in microislets with a more uniform ratio of alpha, beta, and delta cells, the cells of the pancreas responsible for production of glucagon, insulin, and somatostatin, respectively. States Dr. Moritz, “3D InSight™ Pancreatic Microislets display glucose-responsive production of insulin for up to four weeks in culture, giving the researcher a metabolically active model suitable for long-term, repeat-dose efficacy and toxicity studies. The consistent size, more homogeneous cell composition, and automation-compatible format has generated significant demand for the islets for studies ranging from anti-diabetic drug efficacy to assessment of endocrine pancreatic toxicity.”

To find out more about 3D InSight™ Pancreatic Microislets, or to find out more about InSphero visit [www.insphero.com](http://www.insphero.com).



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)

### **InSphero contacts**

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

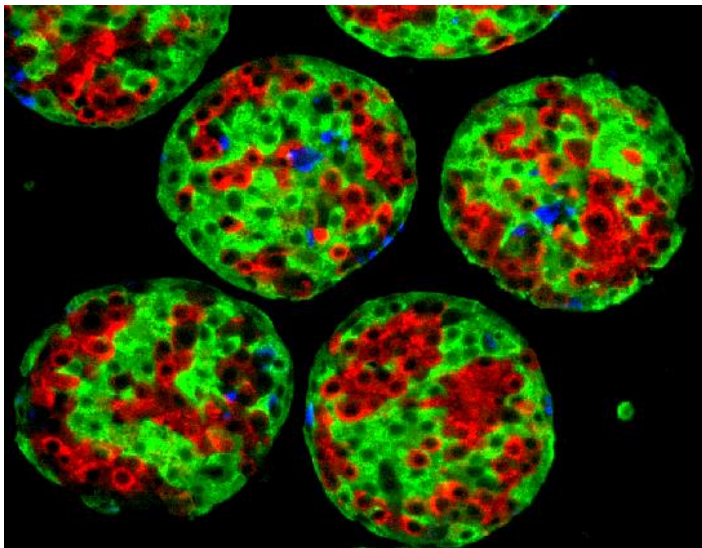
Dr. Wolfgang Moritz, Head of Research & Applications and Co-Founder, phone +41 44  
5150490, [wolfgang.moritz@insphero.com](mailto:wolfgang.moritz@insphero.com), [www.insphero.com](http://www.insphero.com)

### **About InSphero**

InSphero is a leading supplier of organotypic, biological in vitro 3D microtissues for highly predictive drug testing. The company, headquartered in Zurich, Switzerland, with subsidiaries in the USA and in Germany, currently counts all of the top ten global pharmaceutical and cosmetics companies as customers. InSphero 3D Insight™ Microtissues enable more biologically relevant in vitro applications in efficacy and toxicology. The spin-off company of the Swiss Federal Institute of Technology (ETH) Zurich and the University Zurich has been recognized for its scientific and commercial achievements with a number of national and international awards and is also certified to the ISO 9001:2008 standard for its Quality Management System.

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