Organovo and Its Customers Present Data Supporting 3D Bioprinted Liver Tissues for Drug Toxicity Testing and Liver Fibrosis Modeling

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SAN DIEGO, March 10, 2016 (GLOBE NEWSWIRE) -- Organovo Holdings, Inc. (NYSE MKT:ONVO) (“Organovo”), a three-dimensional biology company focused on delivering scientific and medical breakthroughs using its 3D bioprinting technology, today announced five presentations at the Society of Toxicology’s (“SOT”) 55th Annual Meeting and ToxExpo, March 13–17, 2016, in New Orleans. These presentations demonstrate the broad applicability of Organovo’s exVive3DTM Human Liver Model for the assessment of drug safety and the detection of multiple clinically-relevant modes of liver injury, including steatosis and fibrosis. In addition, Organovo’s exhibitor-hosted session on March 15, at 9:00 a.m. Central Time (CT), in Room 212 will include oral presentations on recent advances using bioprinted 3D human liver tissues to assess drug-induced liver toxicity.

“Drug-induced liver injury remains a major cause of late-stage clinical failures and market withdrawal, often due to poor translation from preclinical animal studies to clinical outcomes,” said Dr. Sharon Presnell, chief technology officer and executive vice president of research & development, Organovo. “Organovo’s exVive3D human liver model replicates complex cell-cell interactions and key elements of native tissue architecture to enable the detection of multiple clinically-relevant modes of tissue injury, including necrosis, immune-mediated tissue damage, steatosis, and fibrosis. When a preclinical or clinical-stage asset presents a challenging safety or efficacy signal, exVive3D provides the unique resolving power of a controlled human tissue microenvironment to investigate mechanism and develop solutions.”

"Organovo’s exVive3D Human Liver Model provides an accurate, predictive and reproducible model of human liver biology for preclinical toxicity testing,” said Paul Gallant, general manager, Organovo. “At the SOT Annual Meeting, we and our pharmaceutical customers will be highlighting recent results that show our 3D bioprinted human liver tissue effectively models *in vivo* tissue composition and physiology.”

The presented data supports the use of the exVive3D Human Liver Model in:

- Investigating *in vitro* mechanisms of drug-induced liver injury with biochemical and histologic endpoints;
- Evaluating liver toxicity caused by long-term compound treatment, as well as liver recovery following drug removal;
- Capturing the spectrum of drug-induced changes at the tissue level, including reduced liver function and vascular remodeling;
- Demonstrating drug-, chemical-, and TGF-b1-induced liver fibrosis at the cellular, molecular and histologic level;
- Interrogating and identifying over time the key cellular and molecular events underlying fibrogenesis;
- Characterizing the short and long-term effects of acetaminophen; and
- Examining immune-mediated, drug-induced liver injury.

The presentations are as follows:

Exhibitor-hosted Session: March 15, 9:00 a.m. - 10:00 a.m. CT, Room 212

Title: Advances in the Use of Bioprinted 3D Human Liver Tissues for the Assessment of Drug Induced Liver Toxicity
Presenters: Sharon Collins Presnell, Ph.D., Organovo
Umesh M. Hanumegowda, MVSc Ph.D. DABT, Bristol-Myers Squibb

Poster Presentations: March 15, 9:30 a.m. - 12:45 p.m. CT, CC Exhibit Hall

Title: Functional Evaluation of Bioprinted Human Liver Organoid as a Liver Injury Model
Presenter: Kazuhiro Tetsuka, Ph.D., Astellas Pharma Inc.
Poster: 2001: Poster Board - P405

Title: Modeling Drug Induced Hepatic Fibrosis *In Vitro* Using Three-Dimensional Liver Tissue Constructs
Presenter: Leah M. Norona, Doctoral Candidate, The University of North Carolina at Chapel Hill and The Hamner Institutes
Poster: 1996: Poster Board - P348

Title: Utilization of exVive3D Human Liver Tissues for the Evaluation of Valproic Acid Induced Liver Injury
Presenter: Candace Grundy, Organovo
Poster: 2003: Poster Board - P407

Title: Inflammatory Response of Kupffer Cells in 3D Bioprinted Human Liver Tissues
Presenter: Rhiannon N. Hardwick, Ph.D., Organovo
Poster: 1959: Poster Board - P311

Late-breaking Poster Presentation: March 17, 9:30 a.m. - 12:45 p.m. CT, Great Hall A

Title: Monocrotaline Toxicity in 3D Bioprinted Human Liver Tissue
Presenter: Umesh M. Hanumegowda, MVSc Ph.D. DABT, Bristol-Myers Squibb
Poster: 3562: Poster Board - P254

Exhibit Booth: March 14-16, 9:15 a.m. - 4:30 p.m. CT, Booth 1701, CC Exhibit Hall

About Organovo Holdings, Inc.

Organovo designs and creates functional, three-dimensional human tissues for use in medical research and therapeutic applications. The Company develops 3D human disease models through internal development and in collaboration with pharmaceutical and academic partners. Organovo's 3D human tissues have the potential to accelerate the drug discovery process, enabling treatments to be developed faster and at lower cost. The Company recently launched its initial product of the planned exVive3D portfolio offering, the exVive3D Human Liver Tissue for use in toxicology and other preclinical drug testing. Additional products are in development, with the anticipated release of the exVive3D Human Kidney Tissue scheduled for the third quarter of calendar year 2016. The Company also actively conducts early research on specific tissues for therapeutic use in direct surgical applications. In addition to numerous scientific publications, the Company's technology has been featured in The Wall Street Journal, Time Magazine, The Economist, and numerous other media outlets. Organovo is changing the shape of medical research and practice. Learn more at www.organovo.com.

Forward-Looking Statements
Any statements contained in this press release that do not describe historical facts constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995. Any forward-looking statements contained herein are based on current expectations, but are subject to a number of risks and uncertainties. The factors that could cause the Company's actual future results to differ materially from current expectations include, but are not limited to, risks and uncertainties relating to the Company's ability to develop, market and sell products and services based on its technology; the expected benefits and efficacy of the Company's products, services and technology; the market acceptance of the Company's products and services; the Company's business, research, product development, regulatory approval, marketing and distribution plans and strategies; and the Company's ability to successfully complete the contracts and recognize the revenue represented by the contracts included in its previously reported total contract bookings. These and other factors are identified and described in more detail in the Company's filings with the SEC, including its Annual Report on Form 10-K filed with the SEC on June 9, 2015 and its Quarterly Report on Form 10-Q filed with the SEC on February 8, 2016. You should not place undue reliance on these forward-looking statements, which speak only as of the date that they were made. These cautionary statements should be considered with any written or oral forward-looking statements that the Company may issue in the future. Except as required by applicable law, including the securities laws of the United States, the Company does not intend to update any of the forward-looking statements to conform these statements to reflect actual results, later events or circumstances or to reflect the occurrence of unanticipated events.

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