SLAS Technology June Special Issue on 3D Cell Culture

Oak Brook, IL – The June edition of *SLAS Technology* is a Special Issue entitled, "Emerging Trends in 3D Cell Culture: High-Throughput Screening, Disease Modeling and Translational Medicine." Free online access to the articles in this collection is courtesy of Corning Life Sciences, the issue's sponsor.

Precision medicine is becoming an increasingly popular and powerful way to target and treat human diseases. Patient-derived cellular models ushered in high-throughput screenings (HTS) in laboratory automation. While the upkeep and expansion of cells for HTS is predominantly manual, this special issue explores an automated avenue for HTS in research settings that considers the expansion of cells. This design is flexible for research and development of various cell types. The June issue analyzes protocols for controlled cell seeding, splitting and expansion of human fibroblasts, induced pluripotent stem cells (iPSCs), and neural progenitor cells (NPCs). These multiple platforms lend themselves well for research on patient-derived cellular models for precision medicine. "Significant improvements have been made in formation of complex 3D structures, but challenges remain in automating assay protocols with these models. The flowchips described in the issue contain protected sample chambers to allow media exchange, sample staining, wash steps, and supernatant sampling to occur without disruption to or loss of 3D sample," says *SLAS Technology* author Evan F. Cromwell, Ph.D. (Protein Fluidics, Inc.).

The June issue of *SLAS Technology* includes six articles of original research including:

- Toxicity of Combinations of Kinase Pathway Inhibitors to Normal Human Cells in a Three-Dimensional Culture
- Spheroid Trapping and Calcium Spike Estimation Techniques toward Automation of 3D Culture
- Miniaturized Drug Sensitivity and Resistance Test on Patient-Derived Cells Using Droplet-Microarray
- Automating Human Induced Pluripotent Stem Cell Culture and Differentiation of iPSC-Derived Retinal Pigment Epithelium for Personalized Drug Testing
- Creating an Affordable, User-Friendly Electronic Inventory System for Lab Samples
- Adapting a Low-Cost and Open-Source Commercial Pipetting 311 Robot for Nanoliter Liquid Handling

Other articles include:

- Disease Modeling with 3D Cell-Based Assays Using a Novel Flowchip System and High-Content Imaging
- Three-Dimensional Macroporous Sponge for the Culture of Hepatocellular Carcinoma Patient-Derived Xenograft Organoids
- Automated Device for Uncapping Multiple-Size Bioanalytical Sample Tubes Designed to Reduce Technician Strain and Increase Productivity
- Literature Highlights Column: Life Sciences Discovery and Technology Highlights

Access to June's *SLAS Technology* issue is available at https://journals.sagepub.com/toc/jlad/26/2. For more information about SLAS and its journals, visit https://www.slas.org/publications/slas-technology/.

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SLAS (Society for Laboratory Automation and Screening) is an international professional society of academic, industry and government life sciences researchers and the developers and providers of laboratory automation technology. The SLAS mission is to bring together researchers in academia,

industry and government to advance life sciences discovery and technology via education, knowledge exchange and global community building.

SLAS Discovery: Advancing the Science of Drug Discovery, *2019 Impact Factor 2.195. Editor-in-Chief Robert M. Campbell, Ph.D., Twentyeight-Seven Therapeutics,* Boston, MA *(USA).*

SLAS Technology: Translating Life Sciences Innovation, 2019 Impact Factor 2.174. Editor-in-Chief Edward Kai-Hua Chow, Ph.D., National University of Singapore (Singapore).

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