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SLAS Discovery's "A Perspective on Synthetic Biology in Drug Discovery and Development—Current Impact and Future Opportunities" Available Now

Oak Brook, IL – The June edition of *SLAS Discovery* features the cover article, “A Perspective on Synthetic Biology in Drug Discovery and Development—Current Impact and Future Opportunities” by Florian David, Ph.D. (Chalmers University of Technology, Gothenburg, Sweden), Andrew M. Davis, Ph.D. (AstraZeneca, Cambridge, England, UK), Michael Gossing, Ph.D., Martin A. Hayes, Ph.D., and Elvira Romero, Ph.D., and Louis H. Scott, Ph.D. (AstraZeneca, Gothenburg, Sweden), and Mark J. Wigglesworth, Ph.D. (AstraZeneca, London, England, UK).

In January 2021, a survey of immunologists, infectious-disease researchers and virologists found that 90% of respondents believe SARS-CoV-2 will become endemic, continuing to circulate in pockets of the global population for years to come. Even as vaccines are becoming more widely available, there are people who either do not respond to the treatment or are not suitable for vaccination. There is a critical need to develop small molecule inhibitors for this pathogen.

The cover article highlights the work of the Drug Discovery Unit at the University of Dundee (Dundee, Scotland, UK) reporting on the development of a high-throughput biochemical assay to assess the impact of small molecules on the methyltransferase activity of SARS-CoV-2 nonstructural protein 14 (nsp14). This enzyme is responsible for the N7-methylation of the cap at the 5' end of viral RNA and is critical in helping coronaviruses evade host defenses. The label-free MS-based assay developed was used to screen a library of 1771 FDA-approved drugs. The chemical hits that were identified may serve as starting points for drug discovery programs aimed at delivering therapeutics for the SARS-CoV-2 virus.

The June issue of *SLAS Discovery* includes nine articles of original research.

These include:

- Development and Validation of High-Content Analysis for Screening HDAC6-Selective Inhibitors
- In Vitro Pharmacokinetic/Pharmacodynamic Modeling of HIV Latency Reversal by Novel HDAC Inhibitors Using an Automated Platform
- Identification and Kinetic Characterization of Serum- and Glucocorticoid-Regulated Kinase Inhibitors Using a Fluorescence Polarization-Based Assay
- Reducing False Positives through the Application of Fluorescence Lifetime Technology: A Comparative Study Using TYK2 Kinase as a Model System
- Biochemical and Cellular Profile of NIK Inhibitors with Long Residence Times
- A Novel High-Throughput FLIPR Tetra-Based Method for Capturing Highly Confluent Kinetic Data for Structure–Kinetic Relationship Guided Early Drug Discovery
- A Multipronged Screening Approach Targeting Inhibition of ETV6 PNT Domain Polymerization
- Unbiased High-Throughput Drug Combination Pilot Screening Identifies Synergistic Drug Combinations Effective against Patient-Derived and Drug-Resistant Melanoma Cell Lines
- Regenerable Biosensors for Small-Molecule Kinetic Characterization Using SPR

Other articles include:

- A Perspective on Synthetic Biology in Drug Discovery and Development—Current Impact and Future Opportunities
- Public-Private Partnerships: Compound and Data Sharing in Drug Discovery and Development
- A High-Throughput RNA Displacement Assay for Screening SARS-CoV-2 nsp10-nsp16 Complex Toward Developing Therapeutics for COVID-19
- Development of a High-Throughput Assay to Identify Inhibitors of ENPP1

Access to June’s *SLAS Discovery* issue is available at <https://journals.sagepub.com/toc/jbxb/current>. For more information about SLAS and its journals, visit <https://www.slas.org/publications/slas-discovery/>. Access a “behind the scenes” look at the latest issue with *SLAS Discovery* Author Insights podcast. Tune in by visiting <https://www.buzzsprout.com/1099559>.

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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