

For Immediate Release: April 27, 2023

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Analyzing CAR-T Cells with Image Cytometry for Potential Solid Tumor Treatments

Plate-based image cytometry and other drug discovery articles are part of the original research published in the April issue of SLAS Discovery

Oak Brook, IL – The April 2023 issue of *SLAS Discovery* contains six full-length articles and one mini-review covering high-throughput screening (HTS) for protease-inhibiting drugs, high-content phenotypic screening and other life sciences research.

Featured in this month's issue is the article "[High-Throughput Method to Analyze the Cytotoxicity of CAR-T Cells in a 3D Tumor Spheroid Model Using Image Cytometry](#)," by Zurowski, et al, where the authors focus on the use of chimeric antigen receptor T (CAR-T) cells targeting prostate-specific membrane antigen (PSMA), an antigen found in prostate cancer tumor cells. CAR-T cell therapy has proven to be a reliable treatment option for various hematological malignancies, and the discovery of an assay for testing this therapy to solid tumors could yield new possibilities in treating the tumor type present in 90% of all adult human cancers.

The researchers developed a high-throughput assay to analyze the effects of CAR-T cells on 3D tumor spheroid models using plate-based image cytometry. With this study, the authors demonstrate the potential benefits of using the proposed method for assessing multiple parameters such as potency, specificity and even location of the CAR-T cells in relation to the spheroids, which could improve the rate of identification for effective CAR-T cell therapies in the treatment of solid tumors.

Read this original research article to learn how image-based cytometry can overcome the limitations of conventional CAR-T characterization methods, along with more research articles in the April issue of *SLAS Discovery*.

The [April issue](#) of *SLAS Discovery* includes these additional articles:

- [Using Chemical and Biological Data to Predict Drug Toxicity](#)
- [High-Throughput Method to Analyze the Cytotoxicity of Car-T Cells in a 3D Tumor Spheroid Model Using Image Cytometry](#)
- [High-Content Phenotypic Screen to Identify Small Molecule Enhancers of Parkin-Dependent Ubiquitination and Mitophagy](#)
- [High Throughput Assay for Compounds that Boost BDNF Expression in Neurons](#)
- [High Throughput Screening for Drugs that Inhibit 3C-Like Protease in SARS-CoV-2](#)

- [High Throughput Screening of 0.5 Million Compounds Against CRAF Using Alpha CETSA®](#)
- [Automated Quality Control Tool for High-Content Imaging Data by Building 2D Prediction Intervals on Reference Biosignatures](#)

Access to the April issue of *SLAS Discovery* is available at [https://slas-discovery.org/issue/S2472-5552\(23\)X0004-5](https://slas-discovery.org/issue/S2472-5552(23)X0004-5)

SLAS Discovery reports how scientists develop and use novel technologies and/or approaches to provide and characterize chemical and biological tools to understand and treat human disease. The journal focuses on drug discovery sciences with a strong record of scientific rigor and impact, reporting on research that:

- Enables and improves target validation
- Evaluates current drug discovery technologies
- Provides novel research tools
- Incorporates research approaches that enhance depth of knowledge and drug discovery success

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SLAS Discovery: Advancing the Science of Drug Discovery, 2021 Impact Factor 3.341. Editor-in-Chief Robert M. Campbell, Ph.D., Redona Therapeutics, Watertown, MA (USA)

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