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A New Assay Screening Method Shows Therapeutic Promise for Treating Auto-Immune Disease

MALDI-TOF platform advancements and other drug discovery articles are part of the original research published in the January issue of SLAS Discovery

Oak Brook, IL – The January 2023 issue of *SLAS Discovery* contains a collection of four full-length articles and one technical brief covering cancer research, high-throughput screening (HTS) assay development and other drug discovery exploration.

This month's featured article, "[A high-throughput MALDI-TOF MS biochemical screen for small molecule inhibitors of the antigen aminopeptidase ERAP1](#)," by Müller, et al, presents a newly developed matrix assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS) drug discovery assay for the endoplasmic reticulum aminopeptidase 1 (ERAP1). The dysregulation of ERAP1 has been associated with various auto-immune and auto-inflammatory diseases, making ERAP1 a high-profile target in drug discovery.

The research team behind this study utilized an existing ERAP1 RapidFire MS (RF MS) assay on which to base their MALDI-TOF assay, producing greater assay stability, reproducibility and robustness for the MALDI-TOF platform. When results were compared between the pre-established RF MS and the MALDI-TOF platforms, shorter sample cycle times, reduced reagent consumption and a lower tight-binding limit were all advantages of the MALDI-TOF platform.

Read this original research article to learn how the MALDI-TOF platform may detect other difficult targets, along with more research articles in the January issue of *SLAS Discovery*.

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

- [The *SLAS Discovery* Editor's Top 10 for 2022](#)
- [Reduced levels of serum EPA and DHA identified in patients with non-small-cell lung cancer using a new rapid validated LC-MS/MS method](#)
- [DNA methylation-induced ablation of miR-133a accelerates cancer aggressiveness in glioma through upregulating peroxisome proliferator-activated receptor γ](#)
- [Optimising cell-based bioassays via integrated design of experiments (ixDoE) - A practical guide](#)
- [Development of a high-throughput TR-FRET screening assay for a fast-cycling KRAS mutant](#)

- [Corrigendum to DNA methylation-induced ablation of miR-133a accelerates cancer aggressiveness in glioma through upregulating peroxisome proliferator-activated receptor γ [SLAS Discov. 2022 Sep 5;S2472-5552(22)13691-9. doi: 10.1016/j.slasd.2022.08.004.]](#)

Access to the January issue of *SLAS Discovery* is available at https://slas-discovery.org/issue/S2472-5552(23)X0002-1

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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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