ThermoFisher SCIENTIFIC

Mass spectrometry

Stellar mass spectrometer

Discovery to validation at unprecedented scale

2024 year in review

thermo scientific

Introduction

Accelerate biomarker verification with confidence by quantifying more analytes with increased sensitivity, specificity, and throughput using the Thermo Scientific™ Stellar™ mass spectrometer. By synergistically combining the robust quantitative performance of triple-quadrupole technology with the sensitive, hyper-fast full-scan MS^n acquisition of dual-pressure linear ion trap technology, the Stellar mass spectrometer extends its unprecedented analytical capabilities to a wider range of compounds. Dynamic instrument control software simplifies instrument operation while maximizing sample throughput. Together, these capabilities enable researchers to gather the additional insight needed to make better informed decisions and move to the biomarker validation stage faster.

19 scientific resources in 6 months

Table of contents

2024 by the numbers

1 Peer-reviewed articles	**1** Application Note	**1** Technical Note
1 White paper	**4** Preprints	**7** Posters
1 Brochure	**3** Webinars	**19** Total

Proteomics
posters

Host-cell proteins

An improved EasyPep sample preparation method for enrichment and quantification of host-cell proteins

View poster

Plasma proteomics

Evolution of PRM assays at discovery scale on a new hybrid nominal mass instrument for phosphoproteomics studies

View poster

Revolutionizing translational research: large-scale targeted PRM proteomics assays enabled by the Stellar mass spectrometer

View poster

Combining a new hybrid nominal mass platform and intelligent data acquisition to enable highly multiplexed targeted proteomics

View poster

Technology

A novel long-life detector for a novel high-speed hybrid nominal mass platform

View poster

Metabolomics
posters

Exploring sex differences in zebrafish livers using a novel targeted discovery metabolomics approach

View poster

Microbiome

High throughput targeted metabolomics library generation on a novel mass spectrometer applied to microbiome analysis

View poster

Proteomics articles

Peer reviewed

Hybrid quadrupole mass filter–radial ejection linear ion trap and intelligent data acquisition enable highly multiplex targeted proteomics

Philip M. Remes, Cristina C. Jacob, Lilian R. Heil, Nicholas Shulman, Brendan X. MacLean, and Michael J. MacCoss

J Proteome Res . 2024, 23, 12, 5476-5486

View article

Preprints

Development of highly multiplex targeted proteomics assays in biofluids using the Stellar mass spectrometer

Deanna L Plubell, Philip M. Remes, Christine C. Wu, Cristina C. Jacob, Gennifer E. Merrihew, Chris Hsu, Nick Shulman, Brendan X. MacLean, Lilian Heil, Kathleen Poston, Tom Montine, and Michael J. MacCoss

bioRxiv 2024.06.04.597431

View article

A novel hybrid high speed mass spectrometer allows rapid translation from biomarker candidates to targeted clinical tests using 15N labeled proteins

Maria Wahle, Philip M. Remes, Vincent Albrecht, Johannes Mueller-Reif, Sophia Steigerwald, Tim Heymann, Lili Niu, Philip Lössl, Stevan Horning, Cristina C. Jacob, and Matthias Mann

bioRxiv 2024.06.02.597029

View article

A workflow for targeted proteomics assay development using a versatile linear ion trap

Ariana E. Shannon, Rachael N. Teodorescu, Nojoon Soon, Lilian R. Heil, Cristina C. Jacob, Philip M. Remes, Mark P. Rubinstein, and Brian C. Searle

bioRxiv 2024.05.31.596891

View article

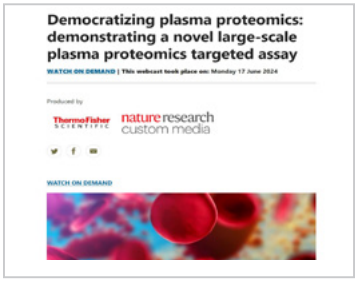
Rapid assay development for low input targeted proteomics using a versatile linear ion trap

Brian Searle, Ariana Shannon, Rachael Teodorescu, No-Joon Song, Lilian Heil, Cristina Jacob, Philip Remes, Zihai Li, and Mark Rubinstein

Research Square 19 July 2024

View article

Proteomics webinars

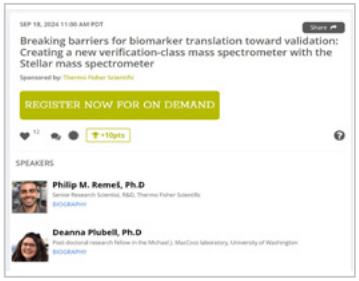


View webinar

Democratizing plasma proteomics: demonstrating a novel large-scale plasma proteomics targeted assay

Michael MacCoss

University of Washington



View webinar

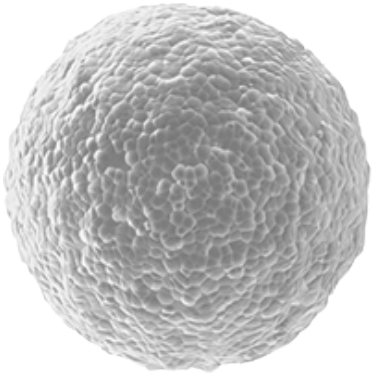
Breaking barriers for biomarker translation toward validation: Creating a new verification-class mass spectrometer with the Stellar mass spectrometer

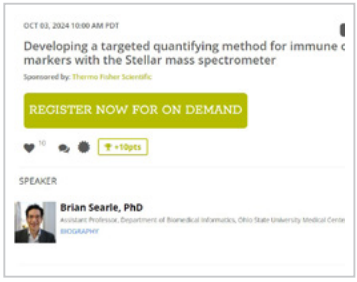
Philip M. Remeš

Thermo Fisher Scientific

Deanna Plubell

University of Washington



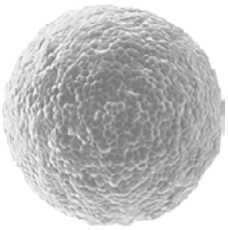


View webinar

Developing a targeted quantifying method for immune cell markers with the Stellar mass spectrometer

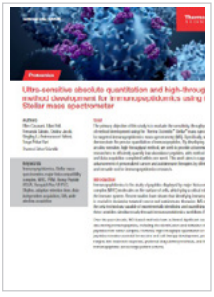
Brian Searle

Ohio State University Medical Center



Proteomics
Technical note

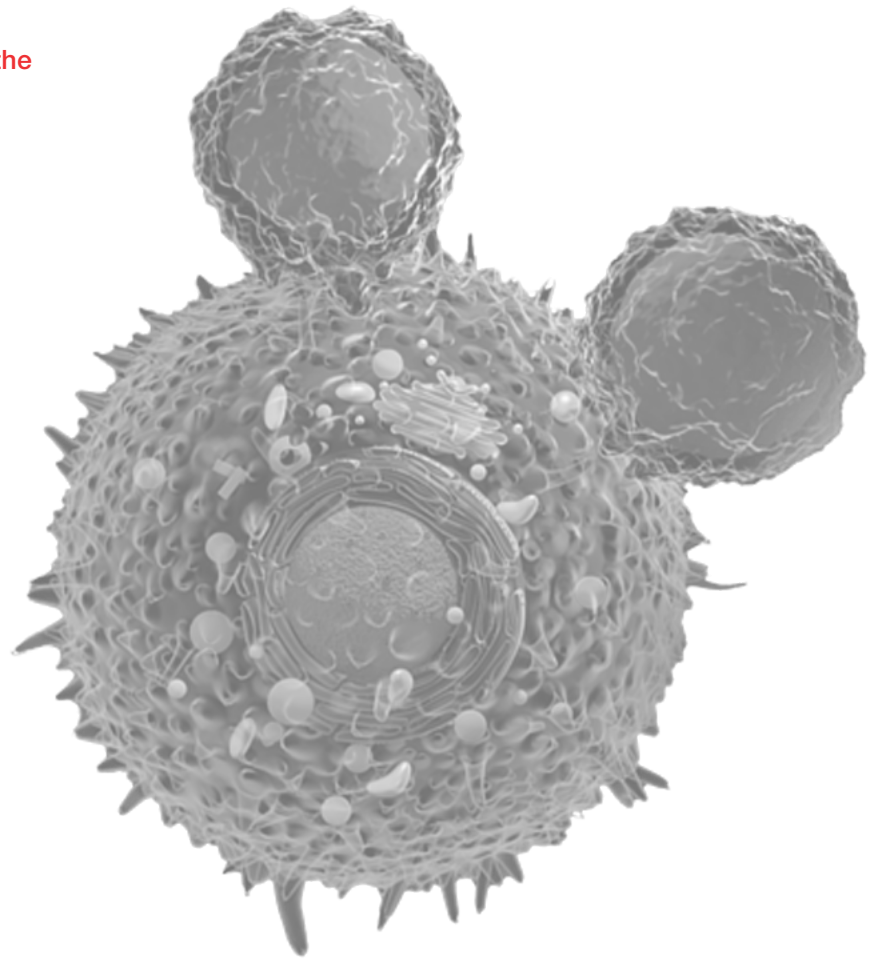
Immunopeptidomics



Ultra-sensitive absolute quantitation and high-throughput method development for immunopeptidomics using the Stellar mass spectrometer

Technical note | 003539

View note



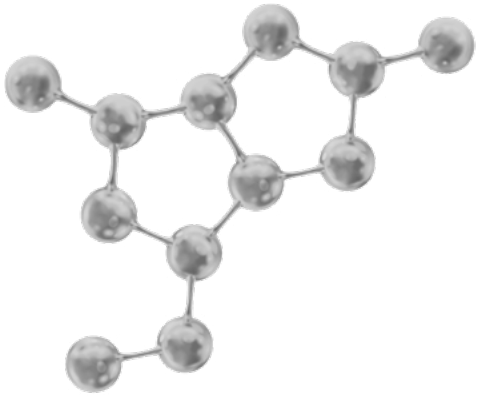
Metabolomics
Applicaton note

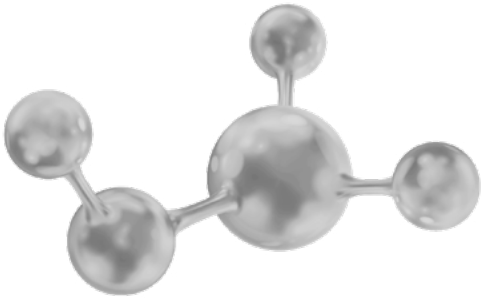
Fecal metabolomics

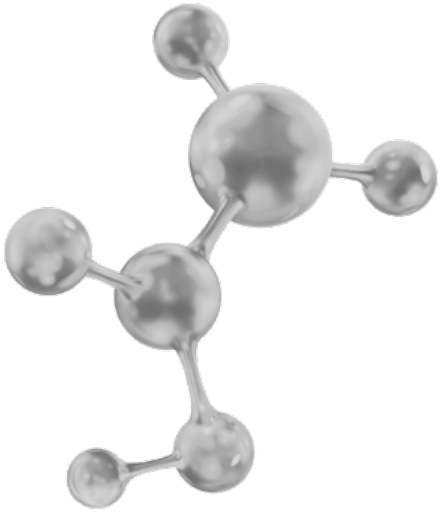
Development and implementation of a comprehensive fecal metabolites LC-MS library for dietary intervention studies using the Thermo Scientific Stellar mass spectrometer

Application note | 003114

View note







Proteomics
White paper

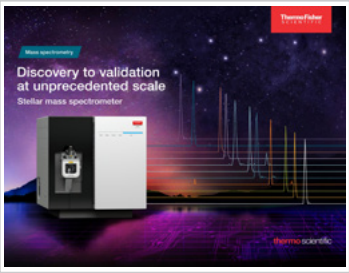
White paper

Transitioning biomarkers from discovery to validation at unprecedented scale with the Stellar mass spectrometer

White paper | 003007

View white paper

Brochure



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Discovery to validation at unprecedented scale: Stellar mass spectrometer

Brochure

Learn more at **thermofisher.com/stellar**