Proteomic Perspectives

A mass cytometry and spatial biology newsletter

April 2026

What's new

This newsletter brings fresh ideas, new tools and discoveries from across the CyTOF™ community. From suspension-based mass cytometry (CyTOF) to Imaging Mass Cytometry™ (IMC™) to multi-omic approaches, there's something here to spark your curiosity.

A webinar you don't want to miss

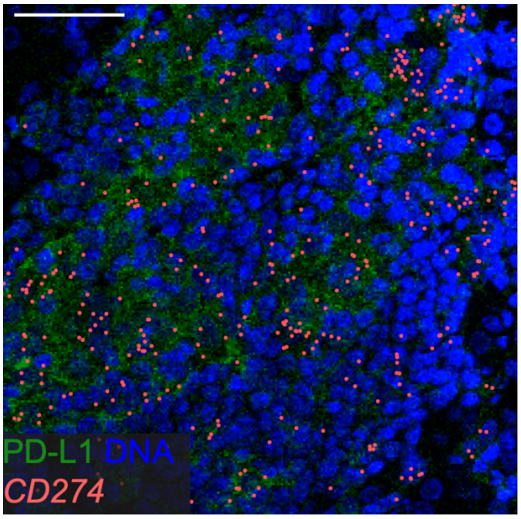


Image highlights checkpoint immunophenotyping with same-slide RNA (CD274) and protein (PD-L1).

Novel same slide – *same cell* – protein and RNA for cancer research

Listen to spatial biology expert Ankur Sharma, PhD, as he presents data on a novel same-slide approach that integrates spatial proteomics and RNA – already informing a Phase 2b cancer trial and a growing pan-cancer spatial atlas. He explores key questions surrounding this emerging application:

- Does protein and RNA in the same cell help identify tertiary lymphoid structures better?
- How can this approach advance checkpoint immunophenotyping?

Watch now ▶

Hot off the press

A CyTOF technology-based workflow for immune profiling in resource-limited settings

In this study from *Cytometry Part A*, Helen McGuire, Natalie Smith and the team at the University of Sydney introduce a simplified mass cytometry workflow designed for multi-center studies, including rural and resource-limited sites. Using a dry-format assay, LyoMax CyTOF Panels and centralized processing, the approach preserves data quality while reducing onsite complexity and delivers immune phenotypes consistent with traditional PBMC workflows.

Listen to the Expert Brief ▶

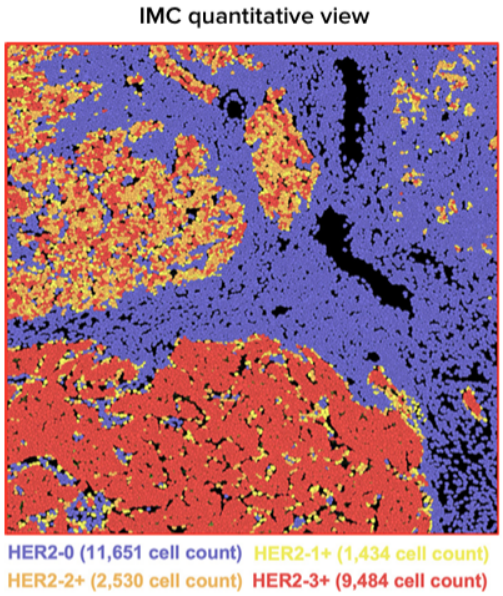
A worthy read

A spatial multi-omic portrait of survival in clear cell renal cell carcinoma

In a new *medRxiv* preprint, Lasse Meyer and colleagues in the Bodenmiller Lab apply 85-plex IMC technology across a large cohort of 500 samples, generating single-cell maps of the tumor-immune-stromal microenvironment at unprecedented scale. By integrating spatial proteomics with genomics, this study identifies distinct cellular states and spatial niches associated with patient survival, demonstrating how IMC workflows deliver clinically meaningful insights at scale.

Read the reprint ▶

Concept in focus



Why does dynamic range matter in spatial biology, and how can it be applied?

In this seven-minute session, Jim Mansfield explains why dynamic range matters in spatial biology, highlighting the quantitative advantages of IMC technology over traditional fluorescence and immunohistochemistry, spanning five orders of magnitude (100,000:1). He uses a HER2 breast cancer case study to show how IMC captures both weak and strong protein signals within the same tissue section.

Watch the video ▶

Posters at a glance

Explore CyTOF and IMC conference abstracts from 2026 – curated in one place

View a curated feed of 62 (and growing) CyTOF and IMC conference abstracts from major meetings in 2026, including AACR, ASCO and SABCS. These studies highlight novel applications across oncology, immunotherapy and spatial multi-omics, illustrating the impact of high-parameter proteomics to uncover immune mechanisms, resolve tumor heterogeneity and advance clinical research.

Review the abstract collection ▶

New technical note

LyoMax CyTOF Panel Validation for High-Quality Single-Cell Proteomics

Validation results show that custom lyophilized panels, for both surface and intracellular markers, generate consistently lower %CVs than liquid panels, supporting improved reproducibility. The data demonstrates reliable, precise quantitation of diverse immune cell populations and confirms compatibility with sample barcoding.

Read the technical note ▶

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