



Showcasing research from Professor Marc E. Pfeifer's Diagnostic Systems (DxS) laboratory, Institute of Life Sciences, School of Engineering, University of Applied Sciences and Arts Western Switzerland, Valais, Switzerland.

Engineering a diagnostic platform based on a spatially resolved electrochemiluminescence immunoassay for low-plex biomarker detection at point-of-care: mild traumatic brain injury and cardiac applications

We developed a platform that incorporates a spatially resolved electrochemiluminescence immunoassay (SR-ECLIA) on a single carbon electrode within a disposable microfluidic cartridge engineered to handle the assay, and an advanced demonstrator tabletop ECL read-out device with application software for data acquisition and image analysis. The platform allows multiplex and high-sensitivity measurements of mild traumatic brain injury biomarkers in bodily fluids.

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As featured in:



See Marc E. Pfeifer *et al.*,
Lab Chip, 2025, 25, 5428.