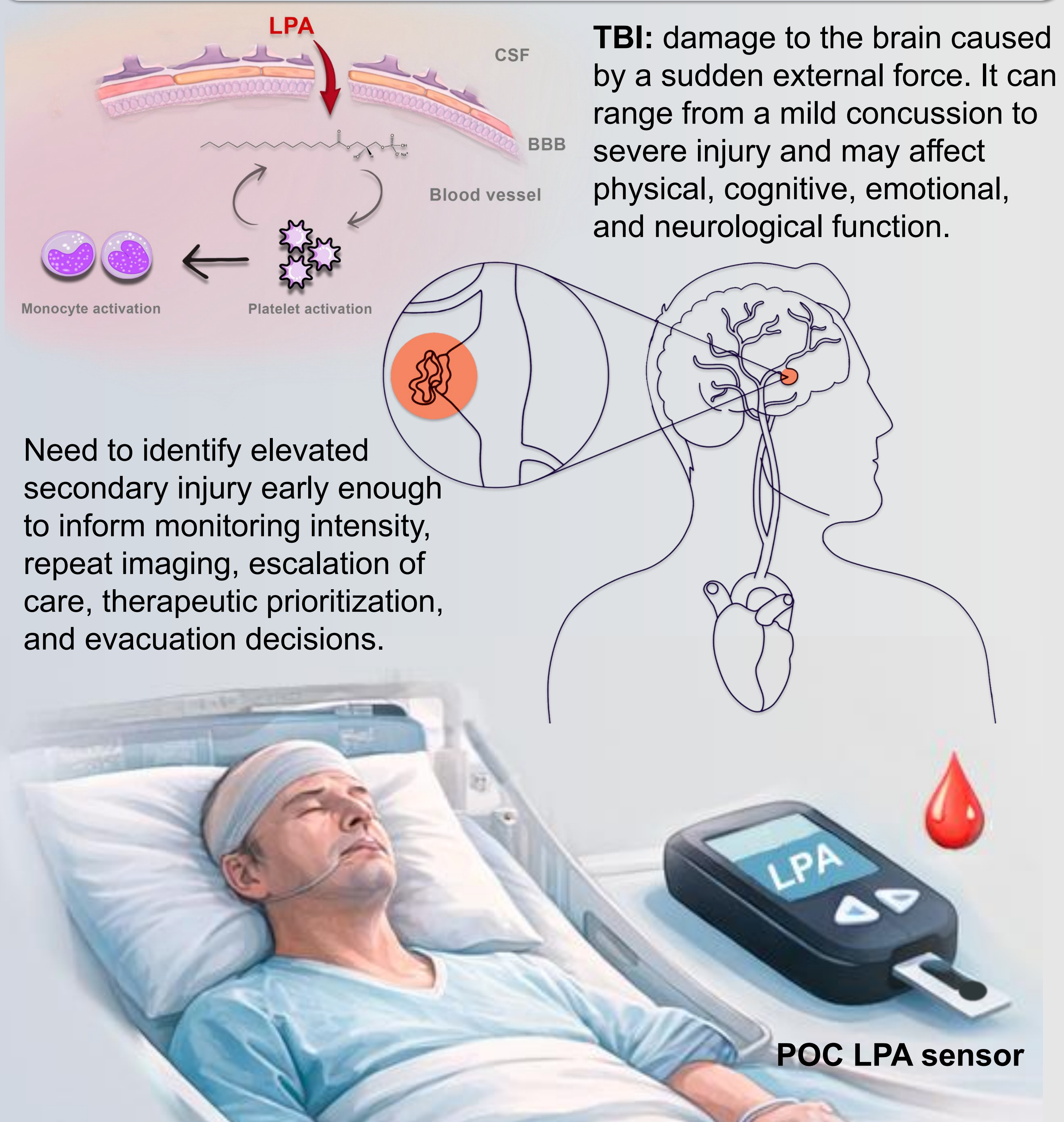


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Project Overview

Can we detect secondary neurologic injury before it is too late?

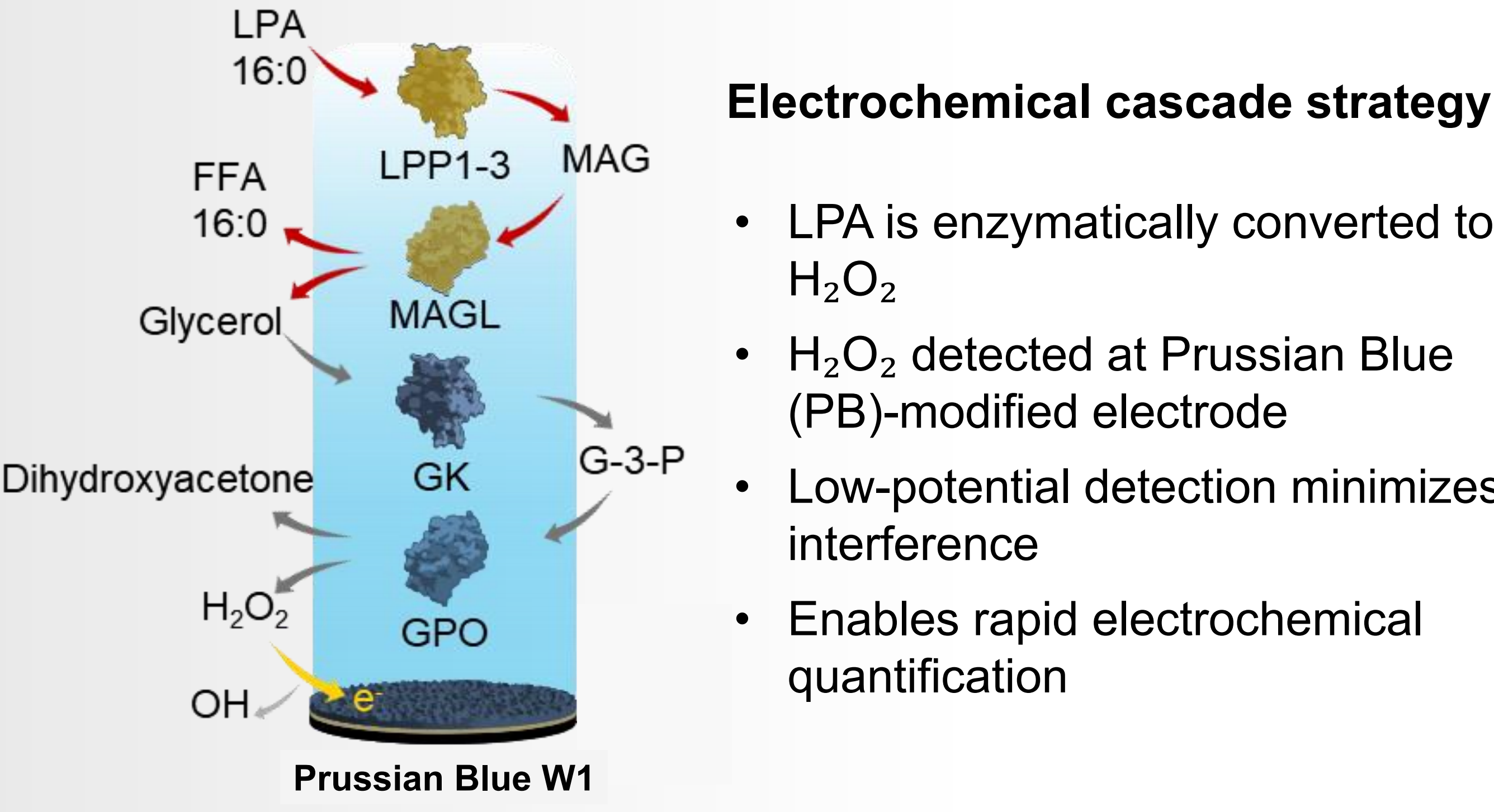
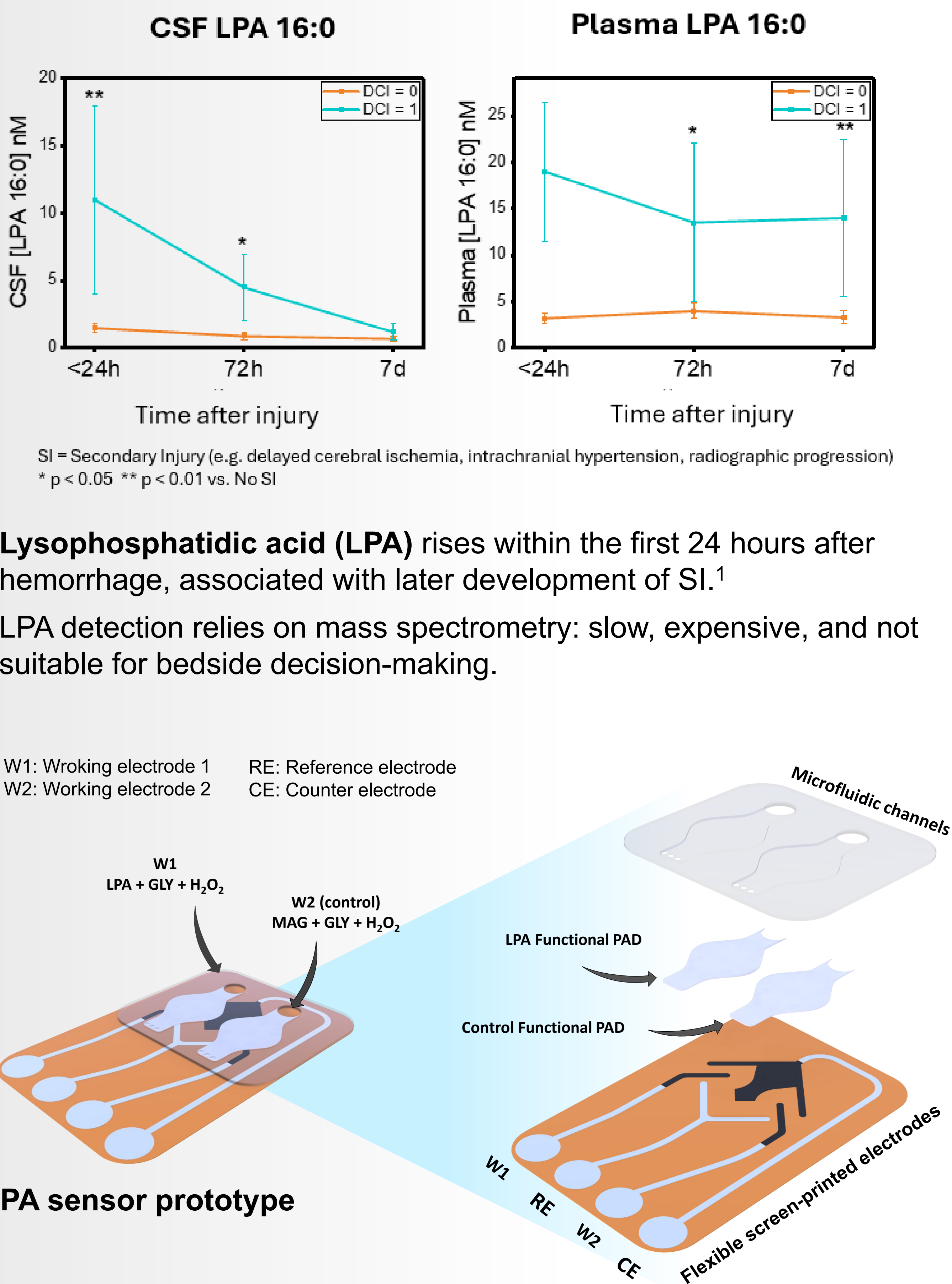


Our solution:
Rapid, point-of-care (POC) method to quantify LPA directly from blood

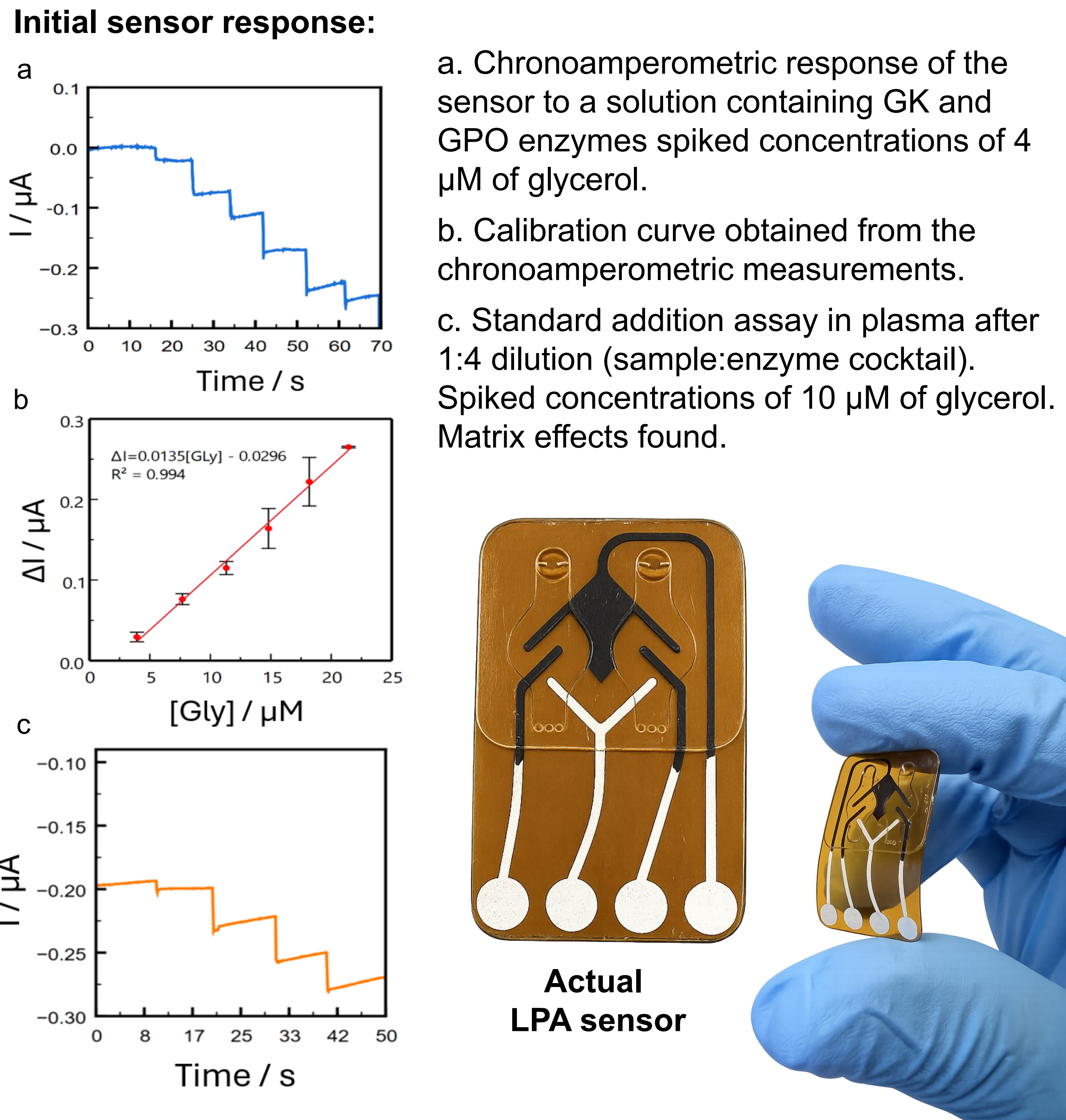
Objectives

- Aim 1:** Develop and optimize an enzymatic cascade biosensor for rapid LPA detection
- Aim 2:** Validate analytical performance using plasma and purified LPA standards
- Aim 3:** Evaluate feasibility of LPA quantification in plasma samples from patients with TBI

Methods



Results



Future directions

- Further sensor modification is required to improve sensitivity and antifouling properties
- Full enzymatic cascade will be tested
- Optimizations will be performed to obtain a POC sensor that detects LPA in whole blood

Clinical impact

- Identify high-risk patients early
- Guide personalized therapeutic interventions
- Highly relevant to military health

References

1. Gusdon AM et al. J Neurotrauma. 2024;41:59-72.