## Advanced Nano-platforms for sensitive biomolecule detection

Chang Lei (ARC DECRA)

School of Medical Sciences The University of Sydney Sydney, NSW, Australia *Chang.lei@sydney.edu.au* 

Biomolecules, including proteins, peptides, and metabolites, play pivotal roles in various biological processes, and their profiles serve as indicators of cellular and organismal status, offering promise for disease diagnosis and therapy. However, the dynamic and intricate nature of diverse biomolecules, coupled with the minimal sample volumes involved, presents considerable challenges in achieving sensitive detection. Recently, we have pioneered several new platform technologies<sup>1-6</sup> for ultrasensitive biomolecule detection utilizing mass spectrometry and lateral flow assays. Our innovative approach has demonstrated superior detection performance compared to previous studies and existing commercial products.

## **References:**

- <sup>1</sup>C. Lei, Nano TransMed, 2023, 2 (4), 100023.
- <sup>2</sup>C. Xu,<sup>#</sup>; C. Lei,<sup>#</sup> et al., Natl. Sci. Rev., 2022, 9, nwac124.
- <sup>3</sup>F. Gao, C. Lei,\*, C. Yu. Biosens. Bioelectron. 2022, 199, 113892.
- <sup>4</sup>F. Gao, C. Lei,\*, C. Yu. ACS Appl. Mater. Interfaces, 2021, 13 (18), 21507-21515.
- <sup>5</sup>F. Gao, C. Lei,\*, C. Yu. Small Methods, 2021, 5 (4), 2000924.
- <sup>6</sup>C. Lei, C. Yu. Small, 2014, 10 (12), 2413-2418.