



Showcasing research from Professor Xiaoyun Ding's laboratory, Mechanical Engineering and Biomedical Engineering, University of Colorado Boulder, United States

Acoustic probing of new biomarkers for rapid sickle cell disease screening

We investigated two new biomarkers for rapid sickle cell disease rapid screening: cell membrane stability from measuring red blood cell (RBC) lysis temperature in whole blood, and plasma protein concentration from measuring relative protein precipitation in blood plasma. Both biomarkers effectively differentiate healthy HbAA samples from pre-/no transfusion HbSS samples with high accuracy. This acoustic probing method with its associated new biomarkers requires no labels nor reagents, is simple to operate, provides rapid results and can be manufactured at low cost, making it ideal for point-of-care hematology in low resource settings.

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As featured in:



See Xiaoyun Ding *et al.*,
Lab Chip, 2026, **26**, 2187.