Author Contributions

Emily S. Savela*, Nathan G. Schoepp*, Matthew M. Cooper, Justin C. Rolando, Jeffrey D. Klausner, Olusegun O. Soge, and Rustem F. Ismagilov. "Surfactant-enhanced DNA accessibility to nuclease accelerates phenotypic β-lactam antibiotic susceptibility testing of Neisseria gonorrhoeae." PLoS Biology. doi:10.1371/journal.pbio.3000651.

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Author Contributions

Conceptualization: Emily S. Savela, Nathan G. Schoepp, Rustem F. Ismagilov.
Data curation: Emily S. Savela, Nathan G. Schoepp, Justin C. Rolando.
Formal analysis: Emily S. Savela, Nathan G. Schoepp, Matthew M. Cooper, Justin C. Rolando.
Funding acquisition: Nathan G. Schoepp, Rustem F. Ismagilov.
Investigation: Emily S. Savela, Nathan G. Schoepp, Matthew M. Cooper.
Methodology: Emily S. Savela, Nathan G. Schoepp.
Project administration: Rustem F. Ismagilov.
Resources: Jeffrey D. Klausner, Olusegun O. Soge, Rustem F. Ismagilov.
Supervision: Rustem F. Ismagilov.
Validation: Emily S. Savela, Nathan G. Schoepp, Matthew M. Cooper.
Visualization: Emily S. Savela, Nathan G. Schoepp.
Writing – original draft: Emily S. Savela, Nathan G. Schoepp.
Writing – review & editing: Emily S. Savela, Nathan G. Schoepp, Matthew M. Cooper, Jeffrey D. Klausner, Olusegun O. Soge, Rustem F. Ismagilov.

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Detailed statement of author contributions

ESS performed initial testing of osmotic, autolysis, and surfactant enhancers. ESS optimized sample handling prior to ABX exposure. ESS performed and analyzed enhancer testing and nuc-aAST experiments (Figs. 3, 4, 6), and assisted in performing digital LAMP experiments (Fig. 6). ESS performed data analysis and selected optimal conditions for nuc-aAST. ESS was a major contributor in selecting the readout metric of percent accessibility. ESS led experimental work and data analysis with clinical urine samples (Fig. 5d, 6e), and performed the experiments for the isolate replicates for (Fig. 5d). ESS contributed to writing the manuscript and figure design, created Fig. 5. and wrote the Methods section.

NGS guided initial testing of enhancers and developed two-step nuc-aAST workflow. NGS selected and performed initial screening of surfactant enhancers NGS optimized sample handling during ABX exposure. NGS performed and analyzed no-enhancer time course experiments (Fig. 2). NGS was a minor contributor in selecting the readout metric of percentage accessibility. NGS designed LAMP primers and contributed to the optimization of LAMP conditions for digital LAMP experiments (Fig. 6). NGS wrote the manuscript and created Figures 1-4, 6.

MMC performed experimental work and data analysis on the clinical urine samples (Fig. 5). MMC assisted in collecting the data for fig 4. MMC contributed to writing the Methods section. JCR optimized digital LAMP conditions, and performed and analyzed all digital LAMP experiments for Fig. 6.

OOS provided isolates and guided discussion on gold-standard AST, and current treatment practices, and performed goldstandard agar dilution AST for Ng.

JDK coordinated and provided oversight of clinical-sample collection at AHF, provided technical assistance to AHF staff, and guided the selection of eligibility criteria for patient recruitment.