



Rapid and Accurate AST

Early optimal antibiotic therapy for patients with bacteraemia and sepsis with the Accelerate Pheno[®] system



Fast Phenotypic MICs
Fully Automated ID & AST
Clinically Actionable Results

ACCELERATE
pheno[®] SYSTEM

“To solve the problem of unnecessary [antibiotic] use, and to get the right drug to the right patient at the right time, regulation and stewardship programmes will not be enough: **we need new rapid diagnostics too.**”¹

—Lord Jim O’Neill

Accelerate Pheno System Delivers Rapid AST Results

UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST, UK

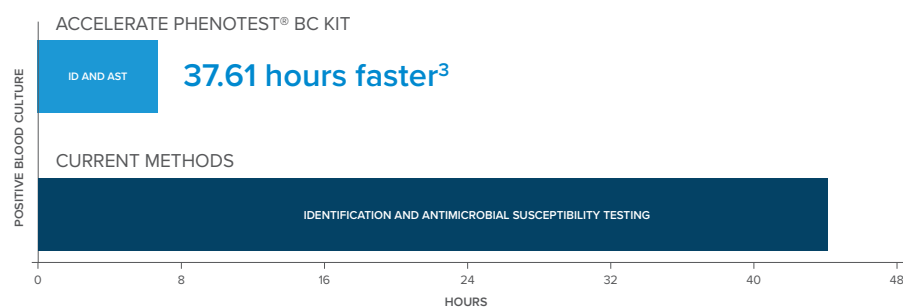
Poster presented at Federation of Infection Societies Conference 2018

“The Accelerate Pheno™ system is able to provide fast organism ID & AST data, while significantly improving the turn-around time in blood culture diagnostics. In light of this advancement, this would likely result in a **better clinical outcome (potential life saving) for critically ill patients and reduce the pressure of antimicrobial resistance while implementing antibiotic stewardship.**”²

HAMPSHIRE HOSPITALS NHS FOUNDATION TRUST, UK

Mini-oral poster presented at ECCMID 2018

Faster Results



“The [Accelerate Pheno system] proved incredibly valuable towards **significantly reducing the ID time to 1.5 hours, providing an antibiogram within 6–7 hours, and giving diagnostic certainty when managing septic cases.**”⁴

Rapid Results Improve Clinical Outcomes

UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES (UAMS), LITTLE ROCK, ARKANSAS, USA⁵

Oral presentation presented at IDWeek 2018

Clinical Outcomes	Standard of Care (n=79)	Accelerate Pheno system (n=75)	p-value
LOS (days)	12.1 (11.9)	9.1 (7.6)	0.03
TTOT (hours)	73.5 (50.2)	37.5 (32.7)	<0.001
Total Antibiotic DOT (days)	9.0 (7.5)	7.0 (4.6)	0.05
Meropenem DOT (days)	6.6 (3.7)	3.7 (2.1)	0.03

Use of the Accelerate Pheno system, compared to SOC of VITEK® MS and VITEK® 2, resulted in:

- **3.0-day reduction in hospital LOS** (total length of stay)
- **2.0-day reduction in antibiotic DOT** (days of therapy)
- **36-hour reduction in TTOT** (time to optimal therapy)

Rapid Results Reduce Inappropriate Antibiotic Use

ROYAL FREE LONDON NHS FOUNDATION TRUST, UK

Oral presentation at IDWeek 2017

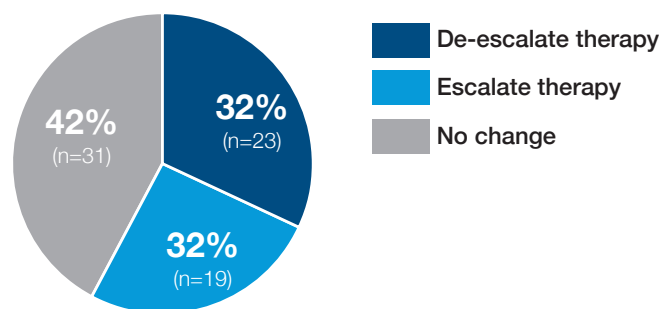
“By reducing the time to AST results the Accelerate Pheno™ system has the potential to produce **actionable results** for the management of BSI and **enable earlier escalation or de-escalation of antibiotic therapy.**”⁶

UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST, UK

Poster presented at Federation of Infection Societies Conference 2018

Therapy optimisation with the Accelerate Pheno system

The potential clinical impact of fast ID & AST on antimicrobial therapy would have led to a change of 58% of therapies.²



“**70%** (16/23) of bacteraemias **could have been de-escalated sooner** based on the Accelerate Pheno™ results, **potentially reducing the risks of HCAs, significant adverse events** in congruence with the national strategy.”²

UNIVERSITY OF TÜBINGEN, GERMANY

Journal of Clinical Microbiology 2017

“Notably, the Accelerate Pheno system correctly detected resistances to **piperacillin-tazobactam, ceftriaxone and carbapenems** [including **seven ESBL-producing *E. coli* and three *P. aeruginosa* isolates**], while not generating false-susceptibility AST results in these strains.”⁷

Rapid Results Improve Quality of Care

UNIVERSITY HOSPITALS BIRMINGHAM NHS FOUNDATION TRUST, UK

Poster presented at Federation of Infection Societies Conference 2018

16% (3/19) of bacteraemia mortalities could have been escalated to potentially lifesaving antibiotics treatment with Accelerate Pheno™ system results²

HAMPSHIRE HOSPITALS NHS FOUNDATION TRUST, UK

Mini-oral poster presented at ECCMID 2018

“Clinical action [using the Accelerate Pheno system occurred] **1.57 days earlier** than SoC... These demonstrable rapid clinical interventions can deliver **significant benefits for individual patients and healthcare organisations in terms of quality of care, patient safety, antimicrobial stewardship and infection prevention measures**, notwithstanding the potential associated financial savings.”³

Clinical Benefits of Rapid AST Results with the Accelerate Pheno System

ROYAL FREE LONDON NHS FOUNDATION TRUST, UK

Oral presentation at ID Week 2017

“By reducing the time to AST results the Accelerate Pheno system has the potential to:

- 1. Produce earlier actionable results** for the management of bloodstream infections
- 2. Improve antimicrobial stewardship** by enabling earlier escalation or de-escalation of antibiotic therapy
- 3. Improve patient outcomes** by directing earlier appropriate antimicrobial therapy targeted at the causative organism”⁶

REFERENCES

¹O'Neill, J. Rapid diagnostics: stopping unnecessary use of antibiotics. *The Review on Antimicrobial Resistance* 2015.

²Wu, H *et al.* How can fast identification & antimicrobial susceptibility testing improve patient care and antibiotics stewardship in critically ill patients? PHE Public Health Birmingham Laboratory. Presented at Federation of Infection Societies Conference 2018, Newcastle, UK.

³Kidd, S *et al.* Assessing the clinical impact of rapid pathogen identification (ID) and antimicrobial susceptibility testing (AST) provided by the Accelerate Pheno™ system at Hampshire Hospitals NHS Foundation Trust (HHFT). Mini-oral poster presented at: The European Congress of Clinical Microbiology and Infectious Disease (ECCMID), Madrid, Spain; April 2018.

⁴Thomas, C. The Accelerate Pheno™ system in clinical practice: Fast and accurate turnaround for critical results. *ICU Management & Practice* 2018; 18(2): 90–91.

⁵Dare R, McCain K, Lusardi K, *et al.* Impact of Accelerate Pheno™ Rapid Blood Culture Detection System on Laboratory and Clinical Outcomes in Bacteremic Patients. Oral presentation at IDWeek™, San Francisco, CA; 2018 6 Oct. Oral Abstract Session: Diagnostics Making A Difference.

⁶Roulston, K *et al.* Evaluation of the Accelerate Pheno™ system for the identification and antimicrobial susceptibility testing of Gram-negative bacteria, compared with conventional laboratory testing. Oral presentation at IDWeek™, San Diego, CA; 2017 7 Oct.

⁷Marschal M, Bachmaier J, Autenrieth I, *et al.* Evaluation of the Accelerate Pheno™ System for Fast Identification and Antimicrobial Susceptibility Testing from Positive Blood Cultures in Bloodstream Infections Caused by Gram-Negative Pathogens. *J Clin Microbiol* 2017; 55: 2116-26.

Join the Fight