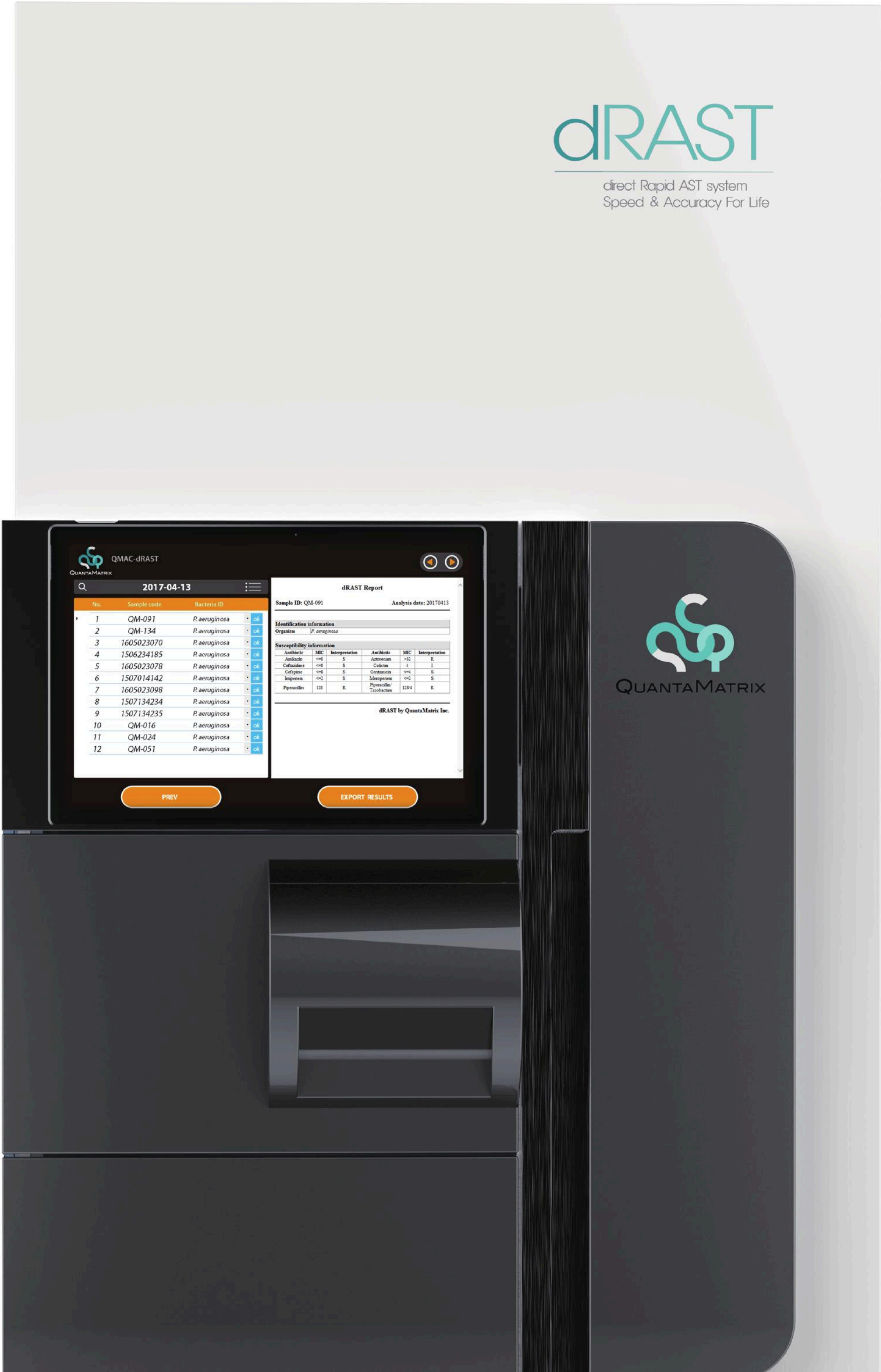


dRAST™

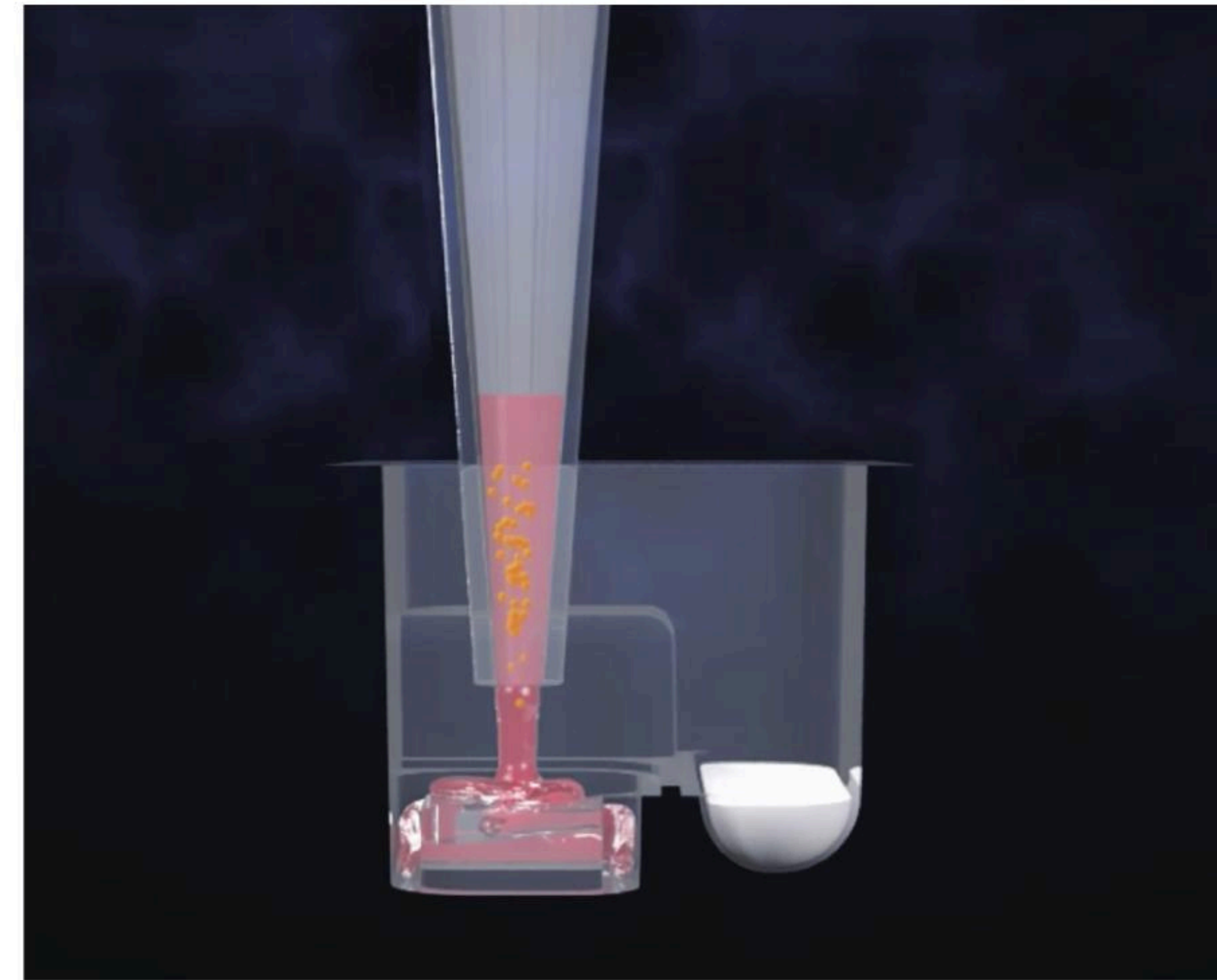
5-7 hours AST from PBC*



Single bacterial cells under various antimicrobial concentrations in microfluidic channel

Bacteria immobilization in a thin agarose channel suitable for

- Microscopic imaging for cellular analysis
- Diffusion of media for bacteria growth and antibiotics for susceptibility testing

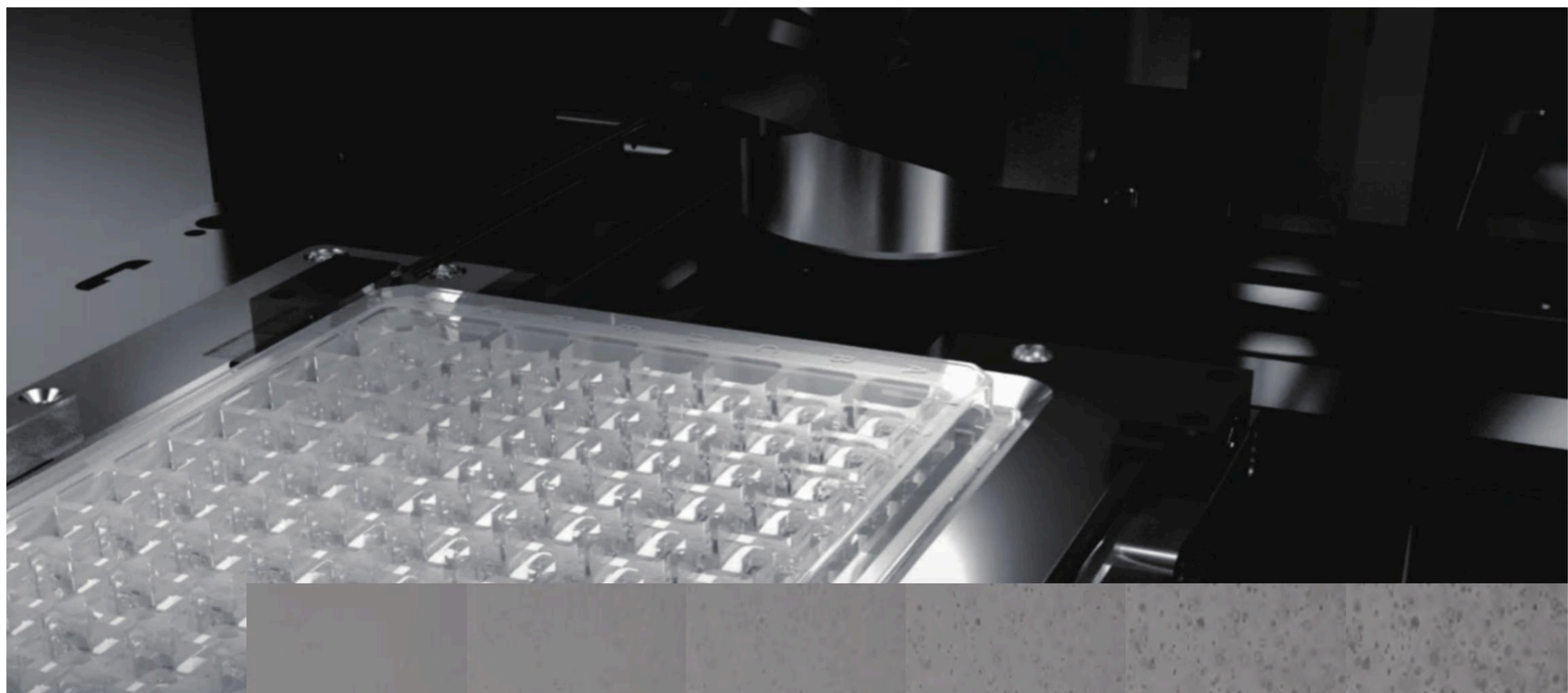


Microfluidic agarose channel technology is implemented in multi-well plate formats with dried antibiotics as ready-to-use kits for susceptibility testing

Imaging each well every hour

We can determine MIC and SIR for antimicrobial while observing bacterial growth in real time using a patented microfluidic chip.

- Time-lapse tracking of bacterial growth in a MAC chip
- Expertise cellular image analysis and algorithms for determine minimum inhibitory concentration
- S/I/R interpretation based on breakpoint and expert rules



Resistant
Susceptible

1h

2h

3h

4h

5h

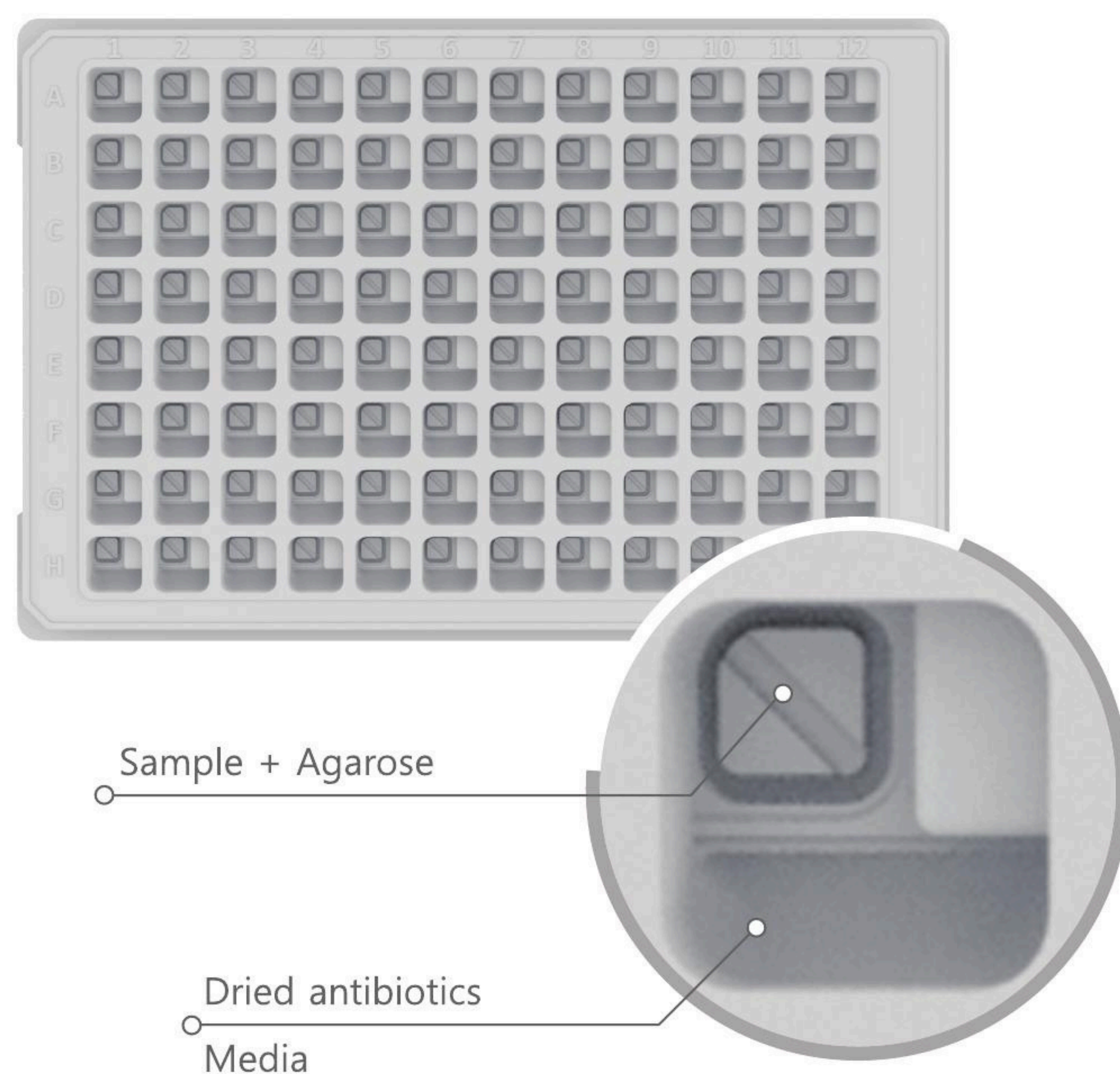
6h

dRAST™ Kit

GP/GN Panels/Gel/Broth

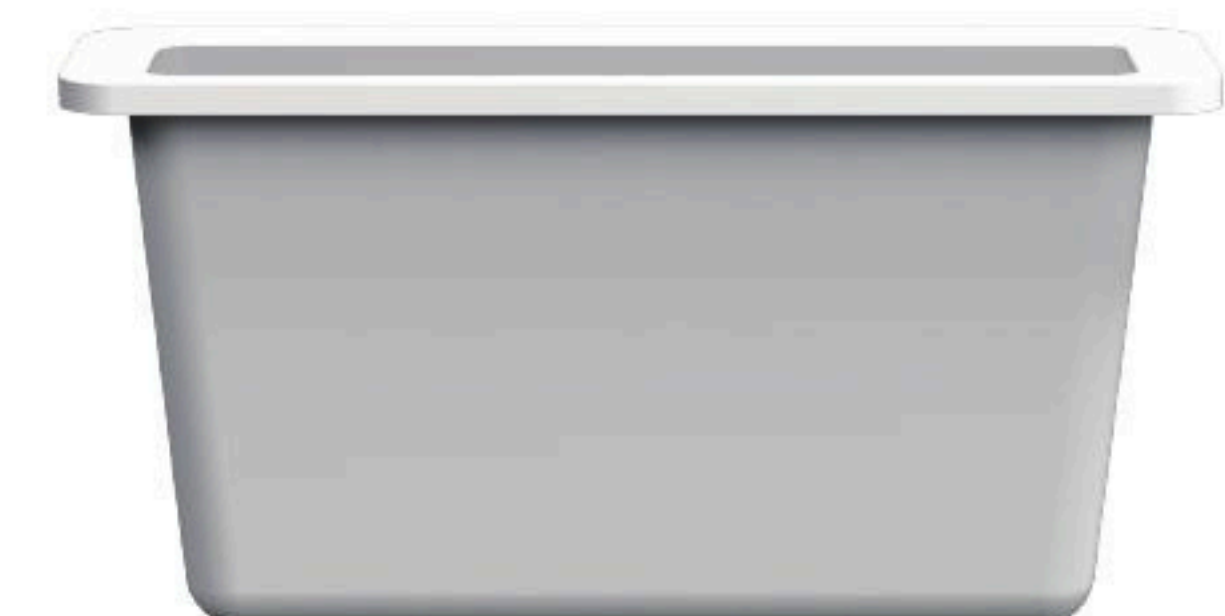
1 Panels

- GP/GN panels for positive blood culture
- Patented micro-patterned 96 wells with dried 17 GP / 19 GN antibiotics



2 Gel

Agarose for immobilizing bacteria

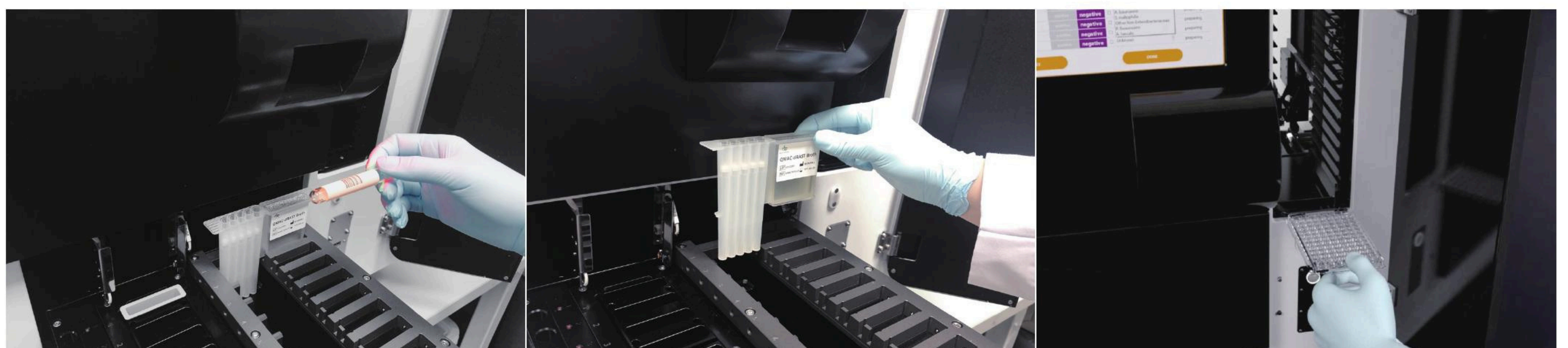


3 Broth

Growth media & pipette tips



1 min hands-on time



Scan sample barcode

Load cartridge

Load panel

No sub-culture

No Turbidimetry

Fully automated dispensing, incubating, imaging and analyzing

- 15 capacity (12 Batch)
- Random access
- Ready to use consumable and reagents
- Automated dispenser for sample, agarose and growth media
- Microscopic optics to check cell growth via time-lapse imaging
- Temperature control system for incubation
- Reporting susceptibility results by proprietary algorithm and database

Image processing and analysis software

- Automated image processing for growth measurement
- MIC determination and SIR interpretation based on database and expert rules
- Reliable and seamless integration of LIS

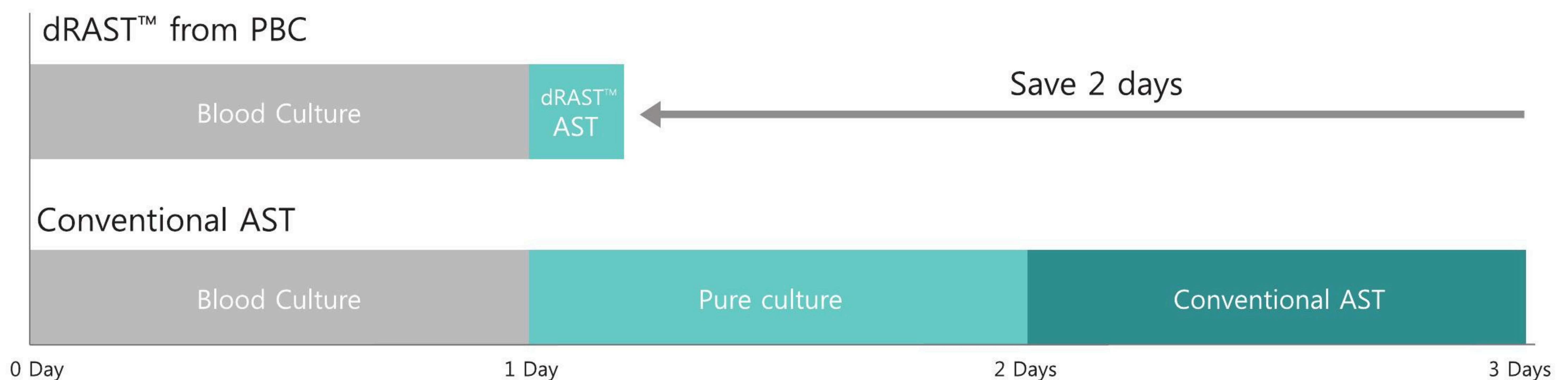
Susceptibility information		
Antibiotic	MIC	Interpretation
Amikacin	≤8	S
Ceftazidime	≥32	R
Colistin	≥4	R
gentamicin	≤2	S
	<1	

Result reporting
Automatic MIC determination and
SIR interpretation



The timely and optimal antibiotic treatment is essential for saving lives of patients with serious infections and for reducing the use of broad-spectrum antibiotics in antibiotic resistance era.

dRAST™ reports optimal antibiotics with MIC(Minimum Inhibitory Concentration) in 5-7 hours from positive blood culture, while other conventional systems take 2-3 days.



Reporting optimal antibiotics
with MIC in 5-7 hours from PBC

- Minimal hands on time to operate
- Stand alone with embedded PC

- No sub-culture for blood AST
- No McFarland for inoculum size



Additional access function with
emergency samples

Easy to add new antibiotics
due to technology principle

Reliable and seamless integration
with the hospital information system

dRAST™ Gram positive & negative panel

GP/GN panels for positive blood culture

17 antibiotics in Gram positive panel

Antimicrobial agent	Concentration (µg/ml)	<i>Staphylococcus</i> spp.	<i>Enterococcus</i> spp.
Ampicillin	0.25, 2, 4, 8		•
Ciprofloxacin	0.12, 1, 2	•	
Clindamycin	0.03, 0.25, 0.5, 1, 2	•	
Erythromycin	0.5, 1, 2, 4	•	
Gentamicin	1, 2, 4, 8, 16	•	
Levofloxacin	0.12, 1, 2	•	
Linezolid	0.5, 2, 4	•	•
Oxacillin	0.06, 0.25, 0.5, 1, 2	•	
Penicillin	0.12, 0.25, 0.5, 1, 2, 4, 8	•	•
Rifampin	0.06, 0.12, 0.25, 0.5, 1, 2, 4	•	
Tetracycline	1, 2, 4, 8, 32	•	
Trimethoprim/Sulfamethoxazole	0.5/9.5, 2/38, 4/76	•	
Vancomycin	0.5, 2, 4, 8, 16	•	•
Cefoxitin screen	0.5, 4, 8	•	
Gentamicin high level	128, 256, 500		•
Streptomycin high level	512, 1000		•
Inducible Clindamycin resistance	0.5/4	•	

19 antibiotics in Gram negative panel

Antimicrobial agent	Concentration (µg/ml)	<i>Enterobacteriaceae</i>	<i>P. aeruginosa</i>	<i>Acinetobacter</i> spp.	<i>Burkholderia cepacia</i> complex	<i>S. maltophilia</i>	Other Non- <i>Enterobacteriaceae</i>
Amikacin	0.5, 4, 8, 16, 32	•	•	•			•
Amoxicillin/Clavulanate	2/1, 8/4, 16/8	•					
Ampicillin	1, 8, 16	•					
Ampicillin/Sulbactam	1/0.5, 8/4, 16/8	•		•			
Aztreonam	1, 2, 4, 8, 16	•	•				•
Cefazolin	0.5, 2, 4	•					
Cefepime	0.25, 1, 2, 4, 8, 16	•	•	•			•
Cefotaxime	1, 2, 4, 8, 16, 32	•		•			•
Ceftazidime	0.5, 1, 2, 4, 8, 16	•	•	•	•	•	•
Ciprofloxacin	0.06, 0.12, 0.25, 0.5, 1, 2	•	•	•			•
Colistin	0.12, 2		•	•			
Ertapenem	0.5, 1, 8	•					
Gentamicin	0.25, 2, 4, 8	•	•	•			•
Imipenem	0.5, 1, 2, 4, 8	•	•	•			•
Meropenem	0.12, 1, 2, 4, 8	•	•	•	•		•
Minocycline	0.12, 1, 4, 8			•	•	•	
Piperacillin/Tazobactam	4/4, 8/4, 16/4, 32/4, 64/4	•	•	•			•
Trimethoprim/Sulfamethoxazole	0.5/9.5, 2/38, 4/76	•		•	•	•	•
ESBL		•					