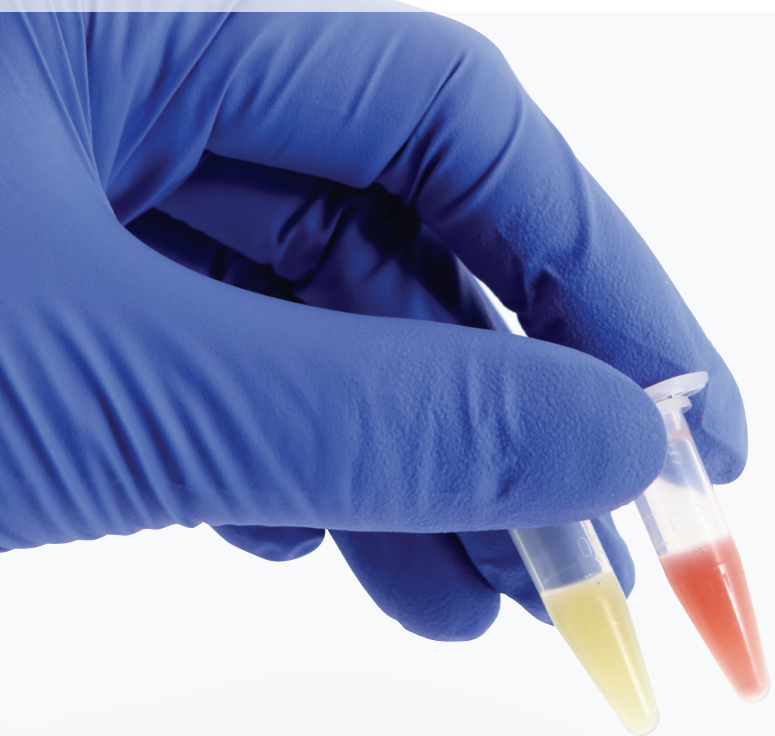
IVD solutions through partnership

Mast Group

MAST® CARBA PAcE

*P*seudomonas, *Ac*inetobacter, **E**nterobacterales
Rapid carbapenemase detection



- **Rapid results in less than 10 minutes**
- **Simple test process in 5 easy steps**
- **Cost effective screening solution**
- **High sensitivity and specificity**

MAST® CARBA PAcE

An increase in antimicrobial resistance is one of the most urgent global challenges facing the field of healthcare. Healthcare associated infections (HAI) are one of the most common adverse effects in care delivery and the occurrences of epidemics of HAI are a major public health problem (WHO 2017).

Carbapenem resistant Gram negative bacteria, including Enterobacterales (CRE), *Pseudomonas aeruginosa* and *Acinetobacter baumannii* are an emerging cause of HAI and accordingly a global public healthcare concern due to high levels of antimicrobial resistance and ability for widespread transmission.
It is important to recognise carriers quickly to prevent and control the spread in nosocomial and community settings and also to aid antibiotic stewardship.

MAST® CARBA PAcE

Mast Group Ltd. remains at the forefront of the fight against such threats and as such has developed a colorimetric test which rapidly detects carbapenemase producing *Pseudomonas* spp., *Acinetobacter* spp. and Enterobacterales using a novel chromogenic cephalosporin analogue for which there is a patent pending for its application.

The new **MAST®** CARBA PAcE is a simple cost effective screening solution providing fast results within 10 minutes, yet reliable in detecting carbapenemase production to support patient treatment. Additionally, no special equipment is required allowing it to be easily integrated into any laboratory workflows.

The basis of this colorimetric test is the hydrolysis of the chromogenic cephalosporin analogue, eliminating the effects of ESBL and AmpC enzymes using suitable inhibitor compounds, providing specific carbapenemase detection. Therefore only distinguishing epidemiologically significant carbapenem resistance, avoiding patient isolation unnecessarily.

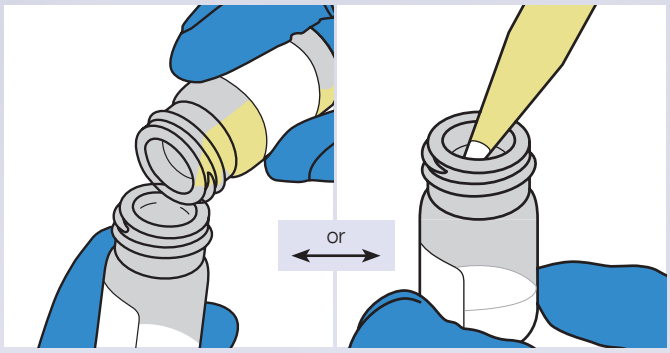
Benefits of MAST® CARBA PAcE

Rapid time to result	– Once the test organism is added to the test solution results are available within 10 minutes.
Cost effective	– Conveniently contains 48 tests per kit, allowing quick identification of carbapenemase producers, assisting with prompt isolation of carriers to prevent cross transmission.
Easily integrated into any laboratory	– Requiring only standard microbiological supplies making this adaptable to any laboratory workflows.
Easy to use	– Simple test procedure, with 5 simple steps (see figure 1), colour change from yellow to orange/red indicates carbapenemase activity.
Quality	– Validated using a panel of organisms including VIM, IMP, NDM, OXA-48-like, OXA-23 and KPC high sensitivity and specificity of 96% and 91% respectively.

MAST® CARBA PAcE

Simple test Process

Reconstitute



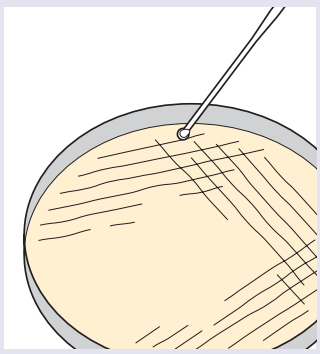
Reconstitute the pellet by transferring the entire contents of vial RB into vial PEL.

Allow the pellet to fully dissolve at room temperature for 1 minute and mix contents by gently vortexing for 10 seconds.

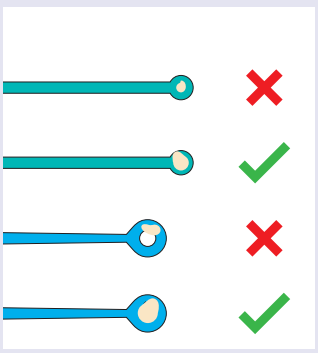
Dispense

Dispense 250 µL of reconstituted solution into the tubes provided. One tube per test.

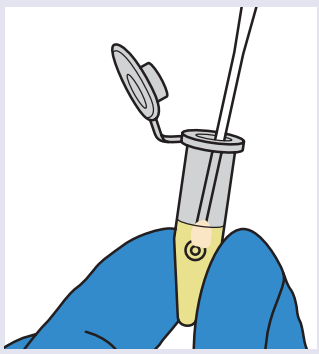
Inoculate



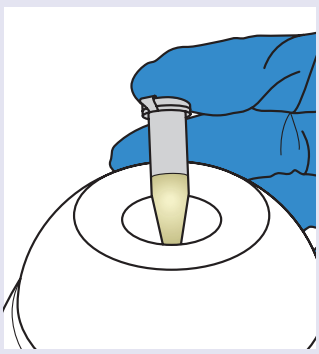
Use a pure, fresh culture of the test organism.



Take an approximate 1–5 µL loopful of organism.

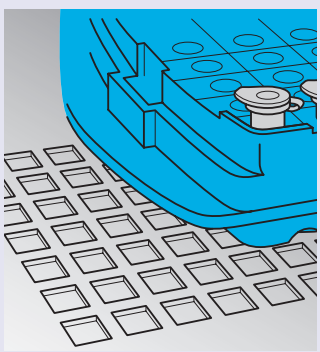


Add to the tube containing test solution.



Mix well by vortexing for 20 seconds.

Incubate



Incubate at 35±1°C for 10 minutes.

Read by eye

Record the colour of the test solution immediately or up to 20 minutes after incubation.

Figure 1 - **MAST®** CARBA PAcE Process

MAST® CARBA PAcE

Ordering Information

Order Code	Product	Pack Size	No. Tests
18PACE	**MAST**® CARBA PAcE (PACE-ID) For the rapid detection of carbapenemase producing Enterobacterales, *Pseudomonas* spp. & *Acinetobacter* spp.	4 × vial PEL 4 × vial RB	48

Additional products from Mast's AMR range

Order Code	Product	Pack Size	No. Tests
171732	**MAST**DISCS® *Combi* Carba plus (D73C)	5 × 50 discs	50
171722	**MAST**DISCS® *Combi* AmpC, ESBL & Carbapenemase Detection Set (D72C)	6 × 50 discs	50
171742	**MAST**®ID Indirect Carbapenemase Test - ICT (D74)	25	25
171712	**MAST**DISCS® *ID* Carbapenemase Activity Test - CAT (D71C)	5 × 50 discs	250

References

Guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, *Acinetobacter baumannii* and *Pseudomonas aeruginosa* in health care facilities. World Health Organisation 2017.

Acute trust toolkit for the early detection, management and control of carbapenemase-producing Enterobacteriaceae (Published: December 2013 PHE publications gateway number: 2013314)

Acknowledgement

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