

IVD solutions through partnership



KPC

VIM

MASTISOPLEX[®] CRE-ART

Rapid Molecular Carbapenemase
Detection

OXA-23

IMP

NDM

OXA-48

OXA-24 / 40

- Results in 45 minutes
- Reliable and easy to use
- Detects the most prevalent targets
- Sensitive and specific LAMP technology

MASTISOPLEX[®] CRE-ART

Introduction

The spread of carbapenemase producing organisms (CPO) has been observed globally due to a lack of reliable screening in healthcare settings allowing patient-patient transmission. Acquired carbapenem resistance is usually mediated by organisms carrying plasmid-encoded carbapenemase enzymes which can result in outbreak situations as they rapidly spread throughout multiple species. The world wide threat of CPO is a major public healthcare concern, resulting in increased mortality in hospitalised patients, and accordingly higher hospital costs. Due to the dwindling supply of effective antibiotics, therapeutic options are now limited making patient management more difficult. Therefore, early detection and differentiation to prevent infection and limiting transmission is essential.

MASTISOPLEX[®] CRE-ART

A loop mediated isothermal amplification (LAMP) kit for the molecular detection and characterisation of 7 different carbapenemase families.



Benefits of MASTISOPLEX[®] CRE-ART

Rapid time to result:

Just 15 minutes sample preparation followed by 30 minute run time

No additional extraction required:

Only requires a quick boil and spin extraction

Ready to use:

Single lyophilised pellet containing all primers and reagents

Highly sensitive and specific:

Reliable detection of CPOs giving confidence in results

Inhibition control for every sample:

Ensures optimal reagent performance and accurate result interpretation

Discrimination of multiple targets:

Specific primer design allows accurate amplification and detection of 7 different carbapenemase families simultaneously

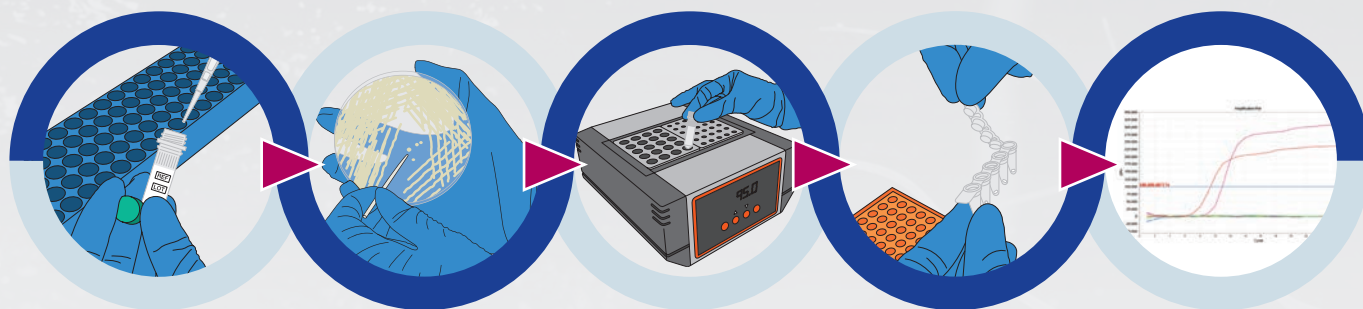
Supports effective Infection Prevention and Control (IPC):

Rapid identification allows accurate resistance monitoring in addition to preventing outbreaks through hospitals and the community

For use on existing laboratory equipment:

Test performed using standard laboratory equipment and consumables

CRE-ART Assay Preparation



Prepare Sample Tube:

Add inhibition control and reconstitution buffer to an empty tube.

Select Bacterial Colony:

Pick a sample from an isolated colony and resuspend in the sample tube.

Extract Nucleic Acid:

Boil the sample for 5 minutes before cooling and briefly centrifuging.

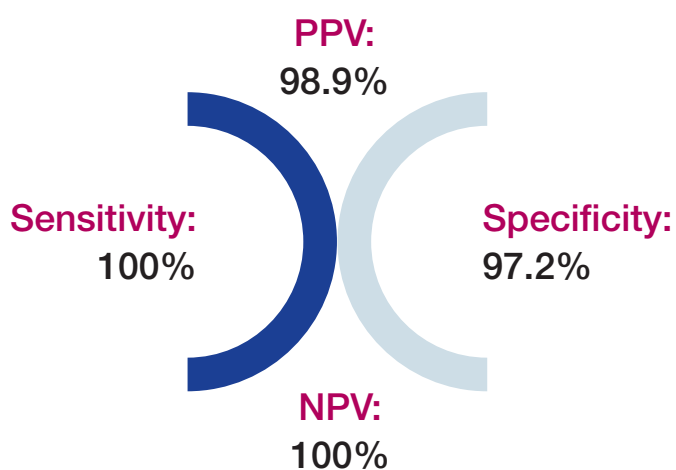
Prepare CRE-ART Strip Tubes:

Add the boiled sample mixture to each individual CRE-ART strip tube.

Incubate and Interpret:

Load the CRE-ART tubes onto a compatible instrument and interpret results with ease.

CRE-ART Assay Performance



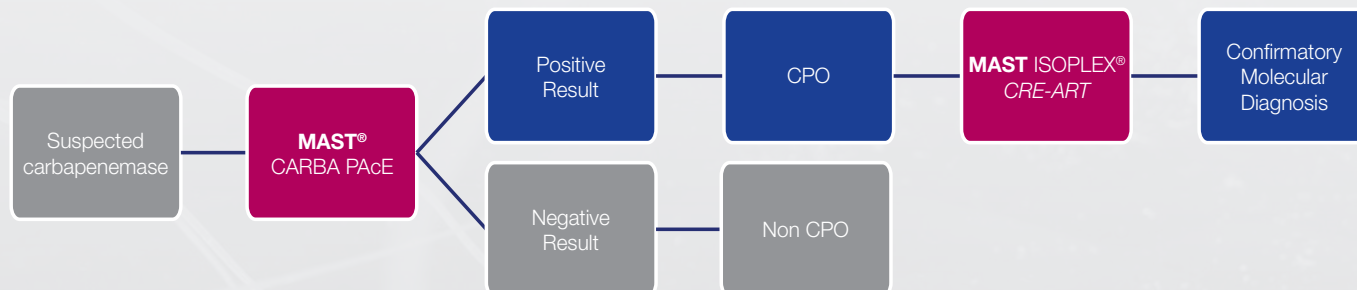
“Highly effective at detecting carbapenemase genes”

“Very simple to perform and generated rapid results”

Professor John Perry,
Clinical Scientist

Newcastle upon Tyne NHS Foundation Trust

Laboratory Workflow



MAST® CARBA PAcE is a simple, rapid and cost effective colorimetric test for carbapenemase detection in *Pseudomonas* spp., *Acinetobacter* spp. and Enterobacterales. This provides a quality first tier screen prior to molecular detection and characterisation using **MAST ISOPLEX®** CRE-ART.

MASTISOPLEX® CRE-ART

Ordering information

| Order Code | Product | Packsize |
|------------|--|----------|
| 67DNALY5 | MASTISOPLEX® CRE-ART – DNA/LYO5 | 10 tests |

Related products

| Order Code | Product | Packsize |
|------------|--|-----------|
| 67DNALY1 | MASTISOPLEX® DNA Lyo – DNA/LYO1 | 100 tests |
| 67DNALY3 | MASTISOPLEX® VTEC – DNA/LYO3 | 20 tests |
| 67DNALY4 | MASTISOPLEX® E.coli O157 – DNA/LYO4 | 20 tests |



References:

Richter, S. and Marchaim, D. (2016). Screening for carbapenem-resistant Enterobacteriaceae: Who, When, and How?. *Virulence*, 8(4), pp.417-426.
Public Health England (www.gov.uk) 2019 - Commercial assays for the detection of acquired carbapenemases.
Evans BA, Amyes SG. OXA β -lactamases. *Clin Microbiol Rev.* 2014, Apr;27(2):241-63

Loop Mediated Isothermal Amplification (LAMP) is licensed under International Patent application numbers: WO 00/28082, WO 01/34790, WO 01/34838, WO 01/83817, WO 01/77317, WO 02/24902, WO 02/103053 And corresponding patents owned by Eiken Co., Ltd., Japan in other countries.

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