



SRL SANMEDICO  
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**TO WHOM IT MAY CONCERN**

**LETTER OF AUTHORISATION**

This letter is to confirm, SRL SANMEDICO of address A. Corobceanu Street 7A, apt. 9, Chişinău MD-2012, Moldova is authorised to register products, present proposals, offer quotations and accept orders and to participate in tenders as required for Mast Group Limited products.

The undersigned herewith states that the above is true and correct.

Yours faithfully,

Susan Thomson

Bootle UK

December 9th 2021

International business Manager, on behalf of Mast Group





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## EC DECLARATION OF CONFORMITY

We hereby declare that the devices described below comply with those provisions which apply to them of the European Directive 98/79/EC 'on *in vitro* diagnostic medical devices', and are placed on the European market by Mast Group UK through our appointed EC Authorised Representative Mast Diagnostica GmbH, Feldstrasse 20, 23858 Reinfeld, Germany.

This declaration is valid for the IVD medical devices described below on or after the date hereof, and which bear the CE mark. It is also valid for all IVD medical devices described below which are manufactured by Mast and placed on the market on or after the date hereof by third parties with our consent and which bear the CE mark. All supporting documents relating to this declaration are retained at the manufacturer's premises.

| Product code | Product description                                                                                                                                                                                      | IVD Directive classification                     | EDMS code                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------|
| Various      | <b>MAST® ID identification test paper products</b> - discs, rings and strips. Products for presumptive identification of biochemical reactions or detection of a specific reaction profiles in microbes. | Self certification Annex III excluding section 6 | 1402020100, 1402020200, 1402020400, 1402020800, 1402029000.<br>(codes registered - 24/03/2003) |

Standards applied: EN ISO 13485:2016, ISO 9001:2015, EN ISO 14971:2019, EN ISO 18113-1:2011, EN ISO 18113-2:2011, EN ISO 15223-1:2016, EN ISO 15223-2:2010.

Declaration made by ..... Date: 22 March 2022

D N Hogben, Quality Assurance and Regulatory Affairs Manager – Mast Group Ltd.

Document valid till: 26<sup>th</sup> May 2025



European In Vitro Diagnostic Medical Directive 98/79/EC, Annex III – General IVD  
EC DECLARATION OF CONFORMITY - Self-Certification (Annex III excluding section 6) – General IVD

Annex – list of MAST® ID identification test paper products

| Serial No. | Device ID Number | Product Description         | Pack Size    | Brand Name    | Intended purpose of the medical device type             |
|------------|------------------|-----------------------------|--------------|---------------|---------------------------------------------------------|
| 1          | D40C             | Bacitracin Discs 0.04 units | 5 x 50 Discs | MASTDISCS® ID | For presumptive Identification of Group A streptococci. |
| 2          | D40              | Bacitracin Discs 0.04 units | 100 Discs    | MASTDISCS® ID | For presumptive Identification of Group A streptococci. |
| 3          | D41C             | Bacitracin Discs 0.1 Unit   | 5 x 50 Discs | MASTDISCS® ID | For presumptive Identification of Group A streptococci. |
| 4          | D41              | Bacitracin Discs 0.1 Unit   | 100 Discs    | MASTDISCS® ID | For presumptive Identification of Group A streptococci. |
| 5          | D42C             | Optochin Discs 5ug          | 5 x 50 Discs | MASTDISCS® ID | For presumptive Identification of Strep. pneumoniae.    |
| 6          | D42              | Optochin Discs 5ug          | 100 Discs    | MASTDISCS® ID | For presumptive Identification of Strep. pneumoniae.    |
| 7          | D43C             | X Factor Discs              | 5 x 50 Discs | MASTDISCS® ID | For presumptive Identification of Haemophilus spp.      |
| 8          | D43              | X Factor Discs              | 100 Discs    | MASTDISCS® ID | For presumptive Identification of Haemophilus spp.      |
| 9          | D44C             | V Factor Discs              | 5 x 50 Discs | MASTDISCS® ID | For presumptive Identification of Haemophilus spp.      |
| 10         | D44              | V Factor Discs              | 100 Discs    | MASTDISCS® ID | For presumptive Identification of Haemophilus spp.      |
| 11         | D45C             | X+V Factor Discs            | 5 x 50 Discs | MASTDISCS® ID | For presumptive Identification of Haemophilus spp.      |
| 12         | D45              | X+V Factor Discs            | 100 Discs    | MASTDISCS® ID | For presumptive Identification of Haemophilus spp.      |





| Serial No. | Device ID Number | Product Description                                | Pack Size    | Brand Name       | Intended purpose of the medical device type                                            |
|------------|------------------|----------------------------------------------------|--------------|------------------|----------------------------------------------------------------------------------------|
| 13         | D46C             | Metronidazole Discs                                | 5 x 50 Discs | MASTDISCS® ID    | For presumptive Identification of Gardnerella vaginalis.                               |
| 14         | D46              | Metronidazole Discs 50ug                           | 100 Discs    | MASTDISCS® ID    | For presumptive Identification of Gardnerella vaginalis.                               |
| 15         | D47C             | Sulphathiazole Discs                               | 5 x 50 Discs | MASTDISCS® ID    | For presumptive Identification of Gardnerella vaginalis.                               |
| 16         | D47              | Sulphathiazole Discs 1ug                           | 100 Discs    | MASTDISCS® ID    | For presumptive Identification of Gardnerella vaginalis.                               |
| 17         | D48              | Lysostaphin Discs 20ug                             | 50 Discs     | MASTDISCS® ID    | For presumptive Identification of Staphylococci/micrococci.                            |
| 18         | D49              | ALA Discs 75ug                                     | 100 Discs    | MASTDISCS® ID    | For presumptive Identification of Haemophilus spp.                                     |
| 19         | D51C             | Nitrate Discs                                      | 5 x 50 Discs | MASTDISCS® ID    | For presumptive Identification of Nitrate Reductase in anaerobes.                      |
| 20         | D52C             | Extended Spectrum $\beta$ Lactamase Set            | 6 x 50 Discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                      |
| 21         | D55              | SPS Discs 1000ug                                   | 100 Discs    | MASTDISCS® ID    | For presumptive Identification of P. anaerobius                                        |
| 22         | D57C             | Oxidase Discs                                      | 5 x 50 Discs | MASTDISCS® ID    | For presumptive Identification of Nitrate Reductase in Pseudomonas spp.                |
| 23         | D57              | Oxidase Discs                                      | 100 Discs    | MASTDISCS® ID    | For presumptive Identification of Pseudomonas spp.                                     |
| 24         | D59              | Nitrocefin Discs (B)                               | 50 Discs     | MASTDISCS® ID    | For presumptive Identification of Beta lactamase activity.                             |
| 25         | D62C             | Cefotaxime 30 & Cefotaxime 30/Clavulanic Acid 10   | 6 x 50 Discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                      |
| 26         | D63C             | Cefepime 30 & Cefepime 30/Clavulanic Acid 10       | 6 x 50 Discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.in Enterobacteriales. |
| 27         | D64C             | Ceftazidime 30 & Ceftazidime 30/Clavulanic Acid 10 | 6 x 50 Discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                      |
| 28         | D66C             | Cefpodoxime 10 & Cefpodoxime 10/Clavulanic Acid 1  | 6 x 50 Discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                      |



| Serial No. | Device ID | Product Description                                                                                                                              | Pack Size    | Brand Name       | Intended purpose of the medical device type                                                                    |
|------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|----------------------------------------------------------------------------------------------------------------|
| 29         | D67C      | Extended Spectrum $\beta$ Lactamase Set (CPD10)                                                                                                  | 6 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 30         | D68C      | AmpC & ESBL Detection Set                                                                                                                        | 4 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 31         | D69C      | AmpC Detection Set                                                                                                                               | 3 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 32         | D70C      | Carbapenemase Detection Set                                                                                                                      | 4 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 33         | D71C      | CAT ID - Carbapenemase Activity Test (CAT) discs                                                                                                 | 5 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 34         | D72C      | MastDiscs® Combi AmpC, ESBL and Carbapenemase Detection Disc Set                                                                                 | 6 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 35         | D73C      | Carba Plus. For the detection of carbapenemase and OXA-48 enzyme production in Enterobacteriaceae.                                               | 5 X 50 discs | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 36         | D74       | MastDiscs® ID Indirect Carbapenemase Test (ICT)                                                                                                  | 25 Tests     | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 37         | D76C      | MastDiscs® Combi ESBL Detection Set                                                                                                              | 50 Tests     | MASTDISCS® Combi | Combination disc sets for the detection of antibiotic resistance.                                              |
| 38         | STOX      | Oxacillin Strips                                                                                                                                 | 50 Strips    | MAST® ID         | Oxacillin Strips for the detection of MRSA-Antibiotic Susceptibility Testing.                                  |
| 39         | ETO/1     | MAST® ID Intralactam Strips                                                                                                                      | 25 strips    | MAST® ID         | A strip test for the rapid detection of $\beta$ -lactamase.                                                    |
| 40         | ETO4      | MAST® ID Oxidase Strips - for the performance of the oxidase reaction                                                                            | 25 strips    | MAST® ID         | A strip test for the rapid detection of cytochrome oxidase enzyme (Oxidase) in bacteria.                       |
| 41         | ETO7      | MAST® ID PYR Strips - for the detection of pyrrolidonyl amino peptidase activity                                                                 | 25 strips    | MAST-ID          | A rapid strip test for the detection of pyrrolidonyl amino peptidase activity in streptococci and enterococci. |
| 42         | MIID/XV   | MAST® ID XV Mirror ring. MASTRING™ containing X+V factor tips                                                                                    | 50 rings     | ID-MASTRING      | For the identification of haemophilus spp.                                                                     |
| 43         | MID8      | MASTRING containing Erythromycin (60ug), Rifampicin (15ug), Colistin Sulphate (10ug), Penicillin G 2 units, Kanamycin (1000ug), Vancomycin (5ug) | 50 rings     | ID-MASTRING      | For the presumptive identification of Gram negative non-sporing anaerobes.                                     |





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| Product code | Product description                                                                                                                                                                                 | IVD Directive classification                        | EDMS code                                    |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------|
| PACE-ID      | <b>MAST® CARBA PAcE</b> – A screening test for the rapid detection of carbapenemase producing Enterobacterales, <i>Pseudomonas</i> , OXA 48 and 23-like enzyme production in <i>Acinetobacter</i> . | Self certification Annex III<br>excluding section 6 | 1402029000<br>(code registered - 24/03/2003) |

Standards applied: EN ISO 13485:2016, ISO 9001:2015, EN ISO 14971:2012, EN ISO 18113-1:2011, EN ISO 18113-2:2011, EN ISO 15223-1:2016, EN ISO 15223-2:2010.

Declaration made by C Winstanley Date: 26<sup>th</sup> May 2022

C Winstanley, Quality Assurance and Regulatory Affairs Manager – Mast Group Ltd.

Document valid till: 26<sup>th</sup> May 2025



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| Product code | Product description                                                                                                                                                                                                                                                                                                                   | IVD Directive classification                              | EDMS code                                                                |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------|
| Various      | <b>MAST DISCS® AST</b> – paper antimicrobial susceptibility test (AST) disc products.<br>Each disc contains an antimicrobial agent of stated content in conformance to recognised AST standards such as European Committee on Antimicrobial Susceptibility Testing - EUCAST or US Clinical and Laboratory Standards Institute - CLSI. | Self-certification<br>Annex III<br>excluding<br>section 6 | 1402050200<br>(Code registered -<br>02/12/2002)<br><br>GMDN code - 63834 |

Standards applied: EN ISO 13485:2016, ISO 9001:2015, EN ISO 14971:2019, EN ISO 18113-1:2011, EN ISO 18113-2:2011, EN ISO 15223-1:2016, EN ISO 15223-2:2010.

Declaration made by C Winstanley

Date: 18<sup>th</sup> May 2022

C Winstanley, Quality Assurance and Regulatory Affairs Manager – Mast Group Ltd.

Document valid till: 18<sup>th</sup> May 2025





European In Vitro Diagnostic Medical Directive 98/79/EC, Annex III – General IVD  
 EC DECLARATION OF CONFORMITY- Self-Certification (Annex III excluding section 6) – General IVD  
 Product Names: Mast® Disc AST products

**Annex – list of Mast® Disc AST products**

| Serial No. | Device ID Number | Product Description               | Method of use | Pack Size  | Brand Name | Intended purpose of the medical device type           |
|------------|------------------|-----------------------------------|---------------|------------|------------|-------------------------------------------------------|
| 1          | AK30C            | Amikacin 30ug                     | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 2          | AP2C             | Ampicillin 2ug                    | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 3          | AP10C            | Ampicillin 10ug                   | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 4          | SAM20C           | Ampicillin 10ug/Sulbactam 10ug    | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 5          | AUG3C            | Amoxicillin/clavulanic acid 2-1   | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 6          | AUG30C           | Amoxicillin/clavulanic acid 20-10 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 7          | ATH15C           | Azithromycin 15ug                 | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 8          | ATM30C           | Aztreonam 30ug                    | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 9          | BA10C            | Bacitracin 10 units               | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 10         | PY100C           | Carbenicillin 100ug               | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 11         | CFC30C           | Cefaclor 30ug                     | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 12         | CFB30C           | Ceftibuten 30ug                   | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 13         | CMD30C           | Cefamandole 30ug                  | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 14         | CDX30C           | Cefadroxil 30ug                   | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 15         | BPR5C            | Ceftobiprole 5ug                  | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 16         | CPM30C           | Cefepime 30ug                     | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 17         | CFM5C            | Cefixime 5ug                      | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 18         | CPZ75C           | Cefoperazone 75ug                 | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 19         | CTX5C            | Cefotaxime 5ug                    | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 20         | CTX30C           | Cefotaxime 30ug                   | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |





| Serial No. | Device ID Number | Product Description          | Method of use | Pack Size  | Brand Name | Intended purpose of the medical device type           |
|------------|------------------|------------------------------|---------------|------------|------------|-------------------------------------------------------|
| 22         | CTF30C           | Cefotiam 30ug                | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 22         | FOX30C           | Cefoxitin 30ug               | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 23         | CPD10C           | Cefpodoxime 10ug             | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 24         | CZL30            | Cefprozil 30ug               | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 25         | CPT5C            | Ceftaroline 5ug              | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 26         | CPT30C           | Ceftaroline 30ug             | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 27         | CZA14C           | Ceftazidime/avibactam 10-4   | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 28         | CZA50C           | Ceftazidime/avibactam 30-20  | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 29         | CAZ10C           | Ceftazidime 10ug             | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 30         | CAZ30C           | Ceftazidime 30ug             | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 31         | CRO5C            | Ceftriaxone 5ug              | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 32         | CRO30C           | Ceftriaxone 30ug             | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 33         | C/T40C           | Ceftolozone/Tazobactam 30-10 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 34         | CXM30C           | Cefuroxime 30ug              | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 35         | CFX30C           | Cephalexin 30ug              | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 36         | KF30C            | Cephalothin 30ug             | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 37         | CZ30C            | Cephazolin 30ug              | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 38         | C30C             | Chloramphenicol 30ug         | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 39         | CIP5C            | Ciprofloxacin 5ug            | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 40         | CLA15C           | Clarithromycin 15ug          | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 41         | CD2C             | Clindamycin 2ug              | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 42         | DLX5C            | Delafloxacin 5ug             | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 43         | DOR10C           | Doripenem 10ug               | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |





| Serial No. | Device ID Number | Product Description            | Method of use | Pack Size  | Brand Name | Intended purpose of the medical device type           |
|------------|------------------|--------------------------------|---------------|------------|------------|-------------------------------------------------------|
| 44         | DXT30C           | Doxycycline 30ug               | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 45         | ERV20C           | Eravacycline 20ug              | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 46         | ETP10C           | Ertapenem 10ug                 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 47         | E15C             | Erythromycin 15ug              | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 48         | FOT200C          | Fosfomycin/Trometamol 200ug    | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 49         | FC10C            | Fusidic Acid 10ug              | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 50         | FDC30C           | Cefiderocol 30ug discs         | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 51         | GM10C            | Gentamicin 10ug                | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 52         | GM30C            | Gentamicin 30ug                | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 53         | GM120C           | Gentamicin 120ug               | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 54         | IMI10C           | Imipenem 10ug                  | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 55         | IMR35C           | Imipenem/relebactam 35µg discs | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 56         | K30C             | Kanamycin 30ug                 | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 57         | LEV5C            | Levofloxacin 5ug               | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 58         | LZD10C           | Linezolid 10ug                 | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 59         | LZD30C           | Linezolid 30ug                 | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 60         | MEC10C           | Mecillinam 10ug                | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 61         | MEM10C           | Meropenem 10ug                 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 62         | MEM10            | Meropenem 10ug                 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 63         | MEV30C           | Meropenem/Vaborbactam 20-10ug  | EUCAST/CLSI   | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 64         | MZ5C             | Metronidazole 5ug              | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 65         | MZ5              | Metronidazole 5ug              | CLSI          | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 66         | MN30C            | Minocycline 30ug               | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 67         | MFX5C            | Moxifloxacin 5ug               | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |





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| Serial No. | Device ID Number | Product Description            | Method of use | Pack Size  | Brand Name | Intended purpose of the medical device type           |
|------------|------------------|--------------------------------|---------------|------------|------------|-------------------------------------------------------|
| 68         | MUP200C          | Mupirocin 200ug                | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 69         | NA30C            | Nalidixic Acid 30ug            | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 70         | NA30             | Nalidixic Acid 30ug            | EUCAST/CLSI   | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 71         | NE10C            | Neomycin 10ug                  | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 72         | NET30C           | Netilmicin 30ug                | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 73         | NI100C           | Nitrofurantoin 100ug           | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 74         | NI300C           | Nitrofurantoin 300ug           | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 75         | NIB30C           | Nitroxoline 30ug               | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 76         | NOR10C           | Norfloxacin 10ug               | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 77         | NO5C             | Novobiocin 5ug                 | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 78         | OFX5C            | Ofloxacin 5ug                  | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 79         | OX1C             | Oxacillin 1ug                  | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 80         | OX5C             | Oxacillin 5ug                  | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 81         | OX1              | Oxacillin 1ug                  | EUCAST/CLSI   | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 82         | PEF5C            | Pefloxacin 5ug                 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 83         | PG1C             | Penicillin G 1 unit            | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 84         | PG1              | Penicillin G 1 unit            | EUCAST        | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 85         | PG10C            | Penicillin G 10 unit           | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 86         | PG10             | Penicillin G 10 unit           | CLSI          | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 87         | PRL30C           | Piperacillin 30ug              | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 88         | PRL100C          | Piperacillin 100ug             | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 89         | PTZ36C           | Piperacillin/Tazobactam 30-6   | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 90         | PTZ110C          | Piperacillin/Tazobactam 100-10 | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 91         | SYN15C           | Quinupristin/dalfopristin 15ug | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 92         | RP5C             | Rifampicin 5ug                 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |





| Serial No. | Device ID Number | Product Description                                                | Method of use | Pack Size  | Brand Name | Intended purpose of the medical device type           |
|------------|------------------|--------------------------------------------------------------------|---------------|------------|------------|-------------------------------------------------------|
| 93         | RP5              | Rifampicin 5ug                                                     | EUCAST/CLSI   | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 94         | SPC100C          | Spectinomycin 100ug                                                | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 95         | S10C             | Streptomycin 10ug                                                  | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 96         | S300C            | Streptomycin 300ug Discs                                           | EUCAST        | 5x50 discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 97         | TEC30C           | Teicoplanin 30ug                                                   | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 98         | TEL15C           | Telithromycin 15ug                                                 | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 99         | TEM30C           | Temocillin 30ug                                                    | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 100        | T30C             | Tetracycline 30ug                                                  | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 101        | TC75C            | Ticarcillin 75ug                                                   | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 102        | TGC15C           | Tigecycline 15ug                                                   | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 103        | TIM85C           | Timentin 85ug<br>(Ticarcillin 75ug/Clavulanic acid 10ug)           | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 104        | TN10C            | Tobramycin 10ug                                                    | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 105        | TM5C             | Trimethoprim 5ug                                                   | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 106        | TS25C            | Cotrimoxazole 25ug (Trimethoprim 1.25ug/Sulphamethosazole 23.75ug) | EUCAST/CLSI   | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 107        | TS25             | Cotrimoxazole 25ug (Trimethoprim 1.25ug/Sulphamethosazole 23.75ug) | EUCAST/CLSI   | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 108        | VA5C             | Vancomycin 5ug                                                     | EUCAST        | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |
| 109        | VA5              | Vancomycin 5ug                                                     | EUCAST        | 100 Discs  | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Vials      |
| 110        | VA30C            | Vancomycin 30ug                                                    | CLSI          | 5x50 Discs | MASTDISCS  | Antibiotic Susceptibility Testing Discs in Cartridges |

# Certificate of Registration

## QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Mast Group Ltd  
Mast House, Derby Road  
Bootle  
Liverpool  
L20 1EA  
United Kingdom

Holds Certificate Number:

FM 724380

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

**Design, manufacture and supply of in-vitro diagnostic devices and associated services.**

For and on behalf of BSI:



Matt Page, Managing Director Assurance - UK & Ireland

Original Registration Date: 1994-06-14

Latest Revision Date: 2021-12-03

Effective Date: 2021-11-11

Expiry Date: 2024-05-31



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Certificate No: FM 724380

| Location                                                                                         | Registered Activities                                                                                                                         |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Mast Group Ltd<br>Mast House, Derby Road<br>Bootle<br>Liverpool<br>L20 1EA<br>United Kingdom     | Design, manufacture and supply of in-vitro diagnostic devices and associated services.                                                        |
| Mast Group Ltd<br>Atlantic House, Derby Road<br>Bootle<br>Liverpool<br>L20 1EA<br>United Kingdom | Manufacturing, QC and warehousing of IVD kits and reagents, bacteriological media and other kits and reagents for the life sciences industry. |



Original Registration Date: 1994-06-14  
Latest Revision Date: 2021-12-03

Effective Date: 2021-11-11  
Expiry Date: 2024-05-31

# Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 13485:2016 & EN ISO 13485:2016

This is to certify that:

Mast Group Ltd  
Mast House, Derby Road  
Bootle  
Liverpool  
L20 1EA  
United Kingdom

Holds Certificate Number:

**MD 724379**

and operates a Quality Management System which complies with the requirements of ISO 13485:2016 & EN ISO 13485:2016 for the following scope:

Design, manufacture and supply of in-vitro diagnostic devices for clinical microbiology and molecular biology and bacteriological media.



For and on behalf of BSI:

Gary E Slack, Senior Vice President - Medical Devices

Original Registration Date: 2020-10-07

Latest Revision Date: 2021-11-28

Effective Date: 2021-06-01

Expiry Date: 2024-05-31

Page: 1 of 2



...making excellence a habit.™



Certificate No: **MD 724379**

| Location                                                                                         | Registered Activities                                                                                                                   |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Mast Group Ltd<br>Mast House, Derby Road<br>Bootle<br>Liverpool<br>L20 1EA<br>United Kingdom     | Design, manufacture and supply of in-vitro diagnostic devices for clinical microbiology and molecular biology and bacteriological media |
| Mast Group Ltd<br>Atlantic House, Derby Road<br>Bootle<br>Liverpool<br>L20 1EA<br>United Kingdom | Manufacture of IVD kits and reagents for clinical microbiology and molecular biology, bacteriological media.                            |



Original Registration Date: 2020-10-07

Latest Revision Date: 2021-11-28

Effective Date: 2021-06-01

Expiry Date: 2024-05-31

Page: 2 of 2

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.  
An electronic certificate can be authenticated [online](#).  
Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory)

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
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A Member of the BSI Group of Companies.



# MASTDISCS®

## Leading the field with a complete solution for AST and Identification disc testing

- Comprehensive range
- Premium quality products
- Compatible with EUCAST and CLSI standards
- Bespoke service available



Mast Group Ltd., has been a manufacturer of antibiotic susceptibility test products since 1957, and continues to be at the forefront of developments in this field. With an ever-expanding portfolio of antibiotic susceptibility, combination and identification discs, Mast Group Ltd. supplies the most comprehensive range available worldwide. Mast Group Ltd. also offers a range of services including **mastpharma®** development and **mastpharma®** stability for the evaluation of novel antimicrobial compounds for the pharmaceutical industry.

Disc diffusion is still the most popular method for determining bacterial antibiotic susceptibility in the treatment of infectious disease, as highlighted by the variety of international standardised procedures including The European Committee on Antimicrobial Susceptibility Testing (EUCAST) and The Clinical and Laboratory Standards Institute (CLSI).

**MASTDISCS®** are available as an extensive range of test discs presented in dispensing cartridges or vials, with quality assurance guaranteed in accordance to standardised test protocols as issued by the above national and international organisations.

## Disc Diffusion Susceptibility Testing

| Order No                                                                        | Product                                                                                                                                     | Packsize              |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| <b>MASTDISCS® AST - ANTIBIOTIC SUSCEPTIBILITY DISCS IN CARTRIDGES AND VIALS</b> |                                                                                                                                             |                       |
| <b>MASTDISCS®</b>                                                               | <b>in Cartridges (5 × 50 discs per pack)</b>                                                                                                |                       |
| STOCKCART                                                                       | Stock Susceptibility Cartridge Discs of a single type  | 1 pack                |
| FUNGCART                                                                        | Stock Antifungal Cartridge Discs of a single type                                                                                           | 1 pack                |
| SPECIALCART                                                                     | Cartridge Discs made to special order*                                                                                                      | Min 18 packs          |
| <b>MASTDISCS®</b>                                                               | <b>(99+/- 2 discs per vial)</b>                                                                                                             |                       |
| STOCKDISC                                                                       | Stock Susceptibility Discs of a single type                                                                                                 | 1 vial                |
| FUNGDISC                                                                        | Stock Antifungal Discs of a single type                                                                                                     | 1 pack                |
| SPECIALDISC                                                                     | Discs made to special order*                                                                                                                | Min 22 packs          |
| TOOL/C                                                                          | *Set up charge for Special Discs in vials or cartridges<br>A one off charge for customisation of each new specification                     | per new specification |



# Disc Diffusion Susceptibility Testing

**MAST**DISCS<sup>®</sup>AST

## ANTIBIOTIC SUSCEPTIBILITY DISCS IN CARTRIDGES - STOCK RANGE

| Description<br>Antibiotic & Content µg per disc<br>(unless otherwise stated) | STANDARD |      | Order Code<br>Cartridges<br>5 × 50 discs |
|------------------------------------------------------------------------------|----------|------|------------------------------------------|
|                                                                              | EUCAST   | CLSI |                                          |
| Amikacin 30                                                                  | ✓        | ✓    | AK30C                                    |
| Amoxicillin/clavulanic acid 2-1                                              | ✓        | -    | AUG3C                                    |
| Amoxicillin/clavulanic acid 20-10                                            | ✓        | ✓    | AUG30C                                   |
| Ampicillin 2                                                                 | ✓        | -    | AP2C                                     |
| Ampicillin 10                                                                | ✓        | ✓    | AP10C                                    |
| Ampicillin/Sulbactam 10-10                                                   | ✓        | ✓    | SAM20C                                   |
| Azithromycin 15                                                              | -        | ✓    | ATH15C                                   |
| Aztreonam 30                                                                 | ✓        | ✓    | ATM30C                                   |
| Bacitracin 10 units                                                          | -        | -    | BA10C                                    |
| Carbenicillin 100                                                            | ✓        | -    | PY100C                                   |
| Cefaclor 30                                                                  | ✓        | ✓    | CFC30C                                   |
| Cefadroxil 30                                                                | ✓        | -    | CDX30C                                   |
| Cefalexin 30                                                                 | ✓        | -    | CFX30C                                   |
| Cefalothin 30                                                                | -        | ✓    | KF30C                                    |
| Cefazolin 30                                                                 | -        | ✓    | CZ30C                                    |
| Cefepime 30                                                                  | ✓        | ✓    | CPM30C                                   |
| Cefiderocol 30                                                               | ✓        | ✓    | FDC30C                                   |
| Cefixime 5                                                                   | ✓        | ✓    | CFM5C                                    |
| Cefotaxime 5                                                                 | ✓        | -    | CTX5C                                    |
| Cefotaxime 30                                                                | -        | ✓    | CTX30C                                   |
| Cefoxitin 30                                                                 | ✓        | ✓    | FOX30C                                   |
| Cefpodoxime 10                                                               | ✓        | ✓    | CPD10C                                   |
| Ceftaroline 5                                                                | ✓        | -    | CPT5C                                    |
| Ceftaroline 30                                                               | -        | ✓    | CPT30C                                   |
| Ceftazidime 10                                                               | ✓        | -    | CAZ10C                                   |
| Ceftazidime 30                                                               | -        | ✓    | CAZ30C                                   |
| Ceftazidime/avibactam 10-4                                                   | ✓        | -    | CZA14C                                   |
| Ceftazidime/avibactam 30-20                                                  | -        | ✓    | CZA50C                                   |
| Ceftibuten 30                                                                | ✓        | ✓    | CFB30C                                   |
| Ceftolozane/tazobactam 30-10                                                 | ✓        | ✓    | C/T40C                                   |
| Ceftobiprole 5                                                               | ✓        | -    | BPR5C                                    |
| Ceftriaxone 5                                                                | -        | ✓    | CRO5C                                    |
| Ceftriaxone 30                                                               | ✓        | ✓    | CRO30C                                   |
| Cefuroxime 30                                                                | ✓        | ✓    | CXM30C                                   |
| Chloramphenicol 30                                                           | ✓        | ✓    | C30C                                     |
| Ciprofloxacin 5                                                              | ✓        | ✓    | CIP5C                                    |
| Clarithromycin 15                                                            | -        | ✓    | CLA15C                                   |
| Clindamycin 2                                                                | ✓        | ✓    | CD2C                                     |
| Delafloxacin 5                                                               | -        | ✓    | DLX5C                                    |
| Doripenem 10                                                                 | ✓        | ✓    | DOR10C                                   |
| Doxycycline 30                                                               | -        | ✓    | DXT30C                                   |
| Eravacycline 20                                                              | ✓        | ✓    | ERV20C                                   |
| Ertapenem 10                                                                 | ✓        | ✓    | ETP10C                                   |
| Erythromycin 15                                                              | ✓        | ✓    | E15C                                     |
| Fosfomycin/Glucose-6-Phosphate 200                                           | ✓        | ✓    | FOT200C                                  |
| Fusidic Acid 10                                                              | ✓        | -    | FC10C                                    |
| Gentamicin 10                                                                | ✓        | ✓    | GM10C                                    |
| Gentamicin 30                                                                | ✓        | -    | GM30C                                    |
| Gentamicin 120                                                               | -        | ✓    | GM120C                                   |
| Imipenem 10                                                                  | ✓        | ✓    | IMI10C                                   |
| Imipenem/relebactam 10-25                                                    | -        | ✓    | IMR35C                                   |
| Kanamycin 30                                                                 | -        | ✓    | K30C                                     |
| Lefamulin 20                                                                 | -        | ✓    | LMU20C                                   |
| Levofloxacin 5                                                               | ✓        | ✓    | LEV5C                                    |
| Linezolid 10                                                                 | ✓        | -    | LZD10C                                   |
| Linezolid 30                                                                 | -        | ✓    | LZD30C                                   |
| Mecillinam 10                                                                | ✓        | ✓    | MEC10C                                   |
| Meropenem 10                                                                 | ✓        | ✓    | MEM10C                                   |

# Disc Diffusion Susceptibility Testing

**MAST**DISCS<sup>®</sup>AST

## ANTIBIOTIC SUSCEPTIBILITY DISCS IN CARTRIDGES - STOCK RANGE

| Description<br>Antibiotic & Content µg per disc<br>(unless otherwise stated) | STANDARD |      | Order Code<br>Cartridges<br>5 × 50 discs |
|------------------------------------------------------------------------------|----------|------|------------------------------------------|
|                                                                              | EUCAST   | CLSI |                                          |
| Meropenem/Vaborbactam 20-10                                                  | ✓        | ✓    | MEV30C                                   |
| Metronidazole 5                                                              | ✓        | -    | MZ5C                                     |
| Minocycline 30                                                               | -        | ✓    | MN30C                                    |
| Moxifloxacin 5                                                               | ✓        | ✓    | MF5C                                     |
| Mupirocin 200                                                                | ✓        | -    | MUP200C                                  |
| Nalidixic Acid 30                                                            | ✓        | ✓    | NA30C                                    |
| Neomycin 10                                                                  | ✓        | -    | NE10C                                    |
| Netilmicin 10                                                                | ✓        | -    | NET10C                                   |
| Netilmicin 30                                                                | ✓        | -    | NET30C                                   |
| Nitrofurantoin 100                                                           | ✓        | -    | NI100C                                   |
| Nitrofurantoin 300                                                           | -        | ✓    | NI300C                                   |
| Nitroxoline 30                                                               | ✓        | -    | NIB30C                                   |
| Norfloxacin 10                                                               | ✓        | ✓    | NOR10C                                   |
| Novobiocin 5                                                                 | -        | -    | NO5C                                     |
| Ofloxacin 5                                                                  | ✓        | ✓    | OF5C                                     |
| Oxacillin 1                                                                  | ✓        | ✓    | OX1C                                     |
| Pefloxacin 5                                                                 | ✓        | -    | PEF5C                                    |
| Penicillin G 1 unit                                                          | ✓        | -    | PG1C                                     |
| Penicillin G 10 units                                                        | -        | ✓    | PG10C                                    |
| Piperacillin 30                                                              | ✓        | -    | PRL30C                                   |
| Piperacillin 100                                                             | -        | ✓    | PRL100C                                  |
| Piperacillin/tazobactam 30-6                                                 | ✓        | -    | PTZ36C                                   |
| Piperacillin/tazobactam 100-10                                               | -        | ✓    | PTZ110C                                  |
| Rifampicin 5                                                                 | ✓        | ✓    | RP5C                                     |
| Streptomycin 10                                                              | -        | ✓    | S10C                                     |
| Streptomycin 300                                                             | ✓        | ✓    | S300C                                    |
| Tedizolid 2                                                                  | ✓        | ✓    | TZD2C                                    |
| Teicoplanin 30                                                               | ✓        | ✓    | TEC30C                                   |
| Temocillin 30                                                                | ✓        | -    | TEM30C                                   |
| Tetracycline 30                                                              | ✓        | ✓    | T30C                                     |
| Ticarcillin 75                                                               | ✓        | ✓    | TC75C                                    |
| Ticarcillin/clavulanic acid 75-10                                            | ✓        | ✓    | TIM85C                                   |
| Tigecycline 15                                                               | ✓        | ✓    | TGC15C                                   |
| Tobramycin 10                                                                | ✓        | ✓    | TN10C                                    |
| Trimethoprim 5                                                               | ✓        | ✓    | TM5C                                     |
| Trimethoprim/sulfamethoxazole 1.25/23.75                                     | ✓        | ✓    | TS25C                                    |
| Vancomycin 5                                                                 | ✓        | -    | VA5C                                     |
| Vancomycin 30                                                                | -        | ✓    | VA30C                                    |
| Blank discs                                                                  | -        | -    | BD0680W/C/NCE                            |

# Disc Diffusion Susceptibility Testing

**MASTDISCS<sup>®</sup>AST**

## NON CLINICAL ANTIBIOTIC SUSCEPTIBILITY DISCS IN CARTRIDGES - STOCK RANGE

| <b>Description</b><br><b>Antibiotic &amp; Content µg per disc</b><br>(unless otherwise stated) | <b>Order Code</b><br><b>Cartridges</b><br><b>5 × 50 discs</b> |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Amoxicillin 25                                                                                 | A25C/NCE                                                      |
| Colistin Sulphate 10                                                                           | CO10C/NCE                                                     |
| Colistin Sulphate 25                                                                           | CO25C/NCE                                                     |
| Polymyxin B 300 units                                                                          | PB300C/NCE                                                    |

**MASTDISCS<sup>®</sup>AST**

## SPECIALIST VETERINARY SUSCEPTIBILITY DISCS - STOCK RANGE

| <b>Description</b><br><b>Antibiotic &amp; Content µg per disc</b><br>(unless otherwise stated) | <b>Order Code</b><br><b>Cartridges</b><br><b>5 × 50 discs</b> |
|------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Cefquinone 30                                                                                  | CEQ30C/NCE                                                    |
| Cefoperazone 30                                                                                | CPZ30C/NCE                                                    |
| Enrofloxacin 5                                                                                 | ENF5C/NCE                                                     |
| Florfenicol 30                                                                                 | FFC30C/NCE                                                    |
| Gamithromycin 15                                                                               | GAM15C/NCE                                                    |
| Marbofloxacin 5                                                                                | MAR5/NCE                                                      |
| Pradofloxacin 5                                                                                | PRA5/NCE                                                      |
| Tildipirison 60                                                                                | TIP60/NCE                                                     |
| Tylosin 30                                                                                     | TY30C/NCE                                                     |



# Disc Diffusion Susceptibility Testing

Order No

Product

Mechanism

Packsize (tests)

**MASTDISCS<sup>®</sup>AST**

## ANTIBIOTIC SUSCEPTIBILITY DISCS IN VIALS - STOCK RANGE

| Description<br>Antibiotic & Content µg per disc<br>(unless otherwise stated) | STANDARD |      | Order Code<br>Vials<br>99+/- 2 discs |
|------------------------------------------------------------------------------|----------|------|--------------------------------------|
|                                                                              | EUCAST   | CLSI |                                      |
| Bacitracin 10 units                                                          | -        | -    | BA10                                 |
| Cefpodoxime 10                                                               | ✓        | ✓    | CPD10                                |
| Gentamicin 10                                                                | ✓        | ✓    | GM10                                 |
| Metronidazole 5                                                              | ✓        | -    | MZ5                                  |
| Nalidixic Acid 30                                                            | ✓        | -    | NA30                                 |
| Oxacillin 1                                                                  | ✓        | ✓    | OX1                                  |
| Penicillin G 1 unit                                                          | ✓        | -    | PG1                                  |
| Vancomycin 5                                                                 | ✓        | -    | VA5                                  |
| Blank discs                                                                  | -        | -    | BD0638W/NCE                          |

**MASTDISCS<sup>®</sup>AST**

## NON CLINICAL ANTIFUNGAL SUSCEPTIBILITY DISCS IN CARTRIDGES AND VIALS - STOCK RANGE

| Description<br>Antibiotic & Content µg per disc<br>(unless otherwise stated) | Order Code<br>Cartridges<br>5 × 50 discs |
|------------------------------------------------------------------------------|------------------------------------------|
|                                                                              |                                          |
| Amphotericin B 20                                                            | AMB20C/NCE                               |
| Clotrimazole 10                                                              | CTM10C/NCE                               |
| Econazole 10                                                                 | ECN10C/NCE                               |
| Fluconazole 10                                                               | FCN10C/NCE                               |
| Fluconazole 25                                                               | FCN25C/NCE                               |
| Flucytosine 1                                                                | FY1C/NCE                                 |
| Ketoconazole 10                                                              | KCA10C/NCE                               |
| Miconazole 10                                                                | MCL10C/NCE                               |
| Nystatin 100                                                                 | NY100C/NCE                               |

# Disc Diffusion Susceptibility Testing

| Order No | Product | Mechanism | Packsize (tests) |
|----------|---------|-----------|------------------|
|----------|---------|-----------|------------------|

## MASTDISCS<sup>®</sup> Combi

### COMBINATION DISC SETS FOR THE DETECTION OF ANTIBIOTIC RESISTANCE

|      |                                                    |                         |           |
|------|----------------------------------------------------|-------------------------|-----------|
| D52C | Extended Spectrum $\beta$ Lactamase Set            | ESBL                    | 50 tests  |
| D62C | Cefotaxime 30 & Cefotaxime 30/Clavulanic Acid 10   | ESBL                    | 150 tests |
| D63C | Cefepime 30 & Cefepime 30/Clavulanic Acid 10       | ESBL                    | 150 tests |
| D64C | Ceftazidime 30 & Ceftazidime 30/Clavulanic Acid 10 | ESBL                    | 150 tests |
| D66C | Cefpodoxime 10 & Cefpodoxime 10/Clavulanic Acid 1  | ESBL                    | 150 tests |
| D67C | Extended Spectrum $\beta$ Lactamase Set (CPD10)    | ESBL                    | 50 tests  |
| D68C | AmpC & ESBL Detection Set                          | AmpC/ESBL               | 50 tests  |
| D69C | AmpC Detection Set                                 | AmpC                    | 50 tests  |
| D72C | AmpC, ESBL & Carbapenemase Detection Set           | AmpC/ESBL/Carbapenemase | 50 tests  |
| D73C | MAST <sup>®</sup> Carba plus                       | MBL/KPC/OXA             | 50 tests  |
| D76C | ESBL Detection Set (EUCAST)                        | ESBL                    | 50 tests  |

#### Additional carbapenemase screening and identification tests

|        |                                                                                                                                                            |              |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| D71C   | MAST <sup>®</sup> CAT-ID - For presumptive identification of carbapenemase production                                                                      | 250 tests    |
| D74    | MAST <sup>®</sup> ICT - screening test for the detection of carbapenemase production in Enterobacterales, <i>Pseudomonas</i> and <i>Acinetobacter</i> spp. | 25 tests     |
| TEM30C | To aid presumptive identification of OXA-48                                                                                                                | 5 × 50 discs |

### RAPID CARBAPENEMASE DETECTION

|          |                                                                                                                                               |          |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------|
| DNA/LYO5 | Rapid molecular carbapenemase detection in Enterobacterales, <i>Pseudomonas</i> spp. and <i>Acinetobacter</i> spp.                            | 10 tests |
| PACE-ID  | Colorimetric test for the rapid detection of carbapenemase producing <i>Pseudomonas</i> spp., <i>Acinetobacter</i> spp. and Enterobacterales. | 48 tests |

## MASTDISCS<sup>®</sup> AST

### PENICILLIN DISCS

For detecting the emergence of penicillin resistance. (99+/- 2 discs or 5 × 50 discs in cartridges)

|      |              |                     |        |
|------|--------------|---------------------|--------|
| PG1  | Penicillin G | 1 unit (vials)      | 1 vial |
| PG1C | Penicillin G | 1 unit (cartridges) | 1 pack |

### HIGH CONTENT AMINOGLYCOSIDE DISCS

The following discs are available to special order and subject to 6 weeks lead time.

For detecting high level aminoglycoside resistance. (99+/- 2 discs or 5 × 50 discs in cartridges)

|            |              |           |
|------------|--------------|-----------|
| GM500C     | 500 $\mu$ g  | Min order |
| K1000C/NCE | 1000 $\mu$ g | 18 packs  |
| K1000/NCE  | 1000 $\mu$ g | Min order |
|            |              | 22 vials  |

Any code with a suffix of '/NCE' is not CE marked and for veterinary or research use only.

# Disc Diffusion Susceptibility Testing

Order No

Product

Packsize

## DISCMASTER DISPENSER

**Robust and reliable antimicrobial cartridge disc dispensers designed for use with MASTDISCS® Antimicrobial Susceptibility Test Cartridges.**

|            |                                               |   |
|------------|-----------------------------------------------|---|
| MDD65      | MAST® DISCMASTER Dispenser - 6 place          | 1 |
| SILICA63   | Silica Gel Capsule for MAST® DISCMASTER       | 4 |
| SHD5       | Single Cartridge Hand Dispenser               | 5 |
| CANISTER   | Canister for MDD64 models and below           | 1 |
| CANISTER65 | Canister for MDD65 MAST® DISCMASTER Dispenser | 1 |



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# MAST<sup>®</sup> CARBA PAcE

*Pseudomonas*, *Acinetobacter*, Enterobacterales  
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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> 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 unnecessary patient isolation.

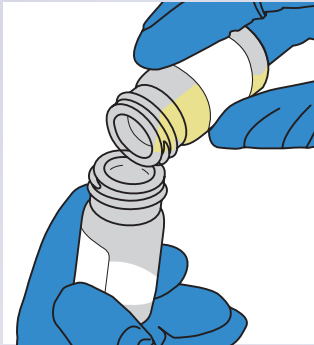
## Benefits of MAST<sup>®</sup> CARBA PAcE

|                                              |                                                                                                                                                                               |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Rapid time to result</b>                  | – Once the test organism is added to the test solution results are available within 10 minutes                                                                                |
| <b>Cost effective</b>                        | – Conveniently contains 48 tests per kit, allowing quick identification of carbapenemase producers, assisting with prompt isolation of carriers to prevent cross transmission |
| <b>Easily integrated into any laboratory</b> | – Requiring only standard microbiological supplies making this adaptable to any laboratory workflows                                                                          |
| <b>Easy to Use</b>                           | – Simple test procedure, with 5 simple steps (see figure 1), colour change from yellow to orange/red indicates carbapenemase activity                                         |
| <b>Quality</b>                               | – 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                      |
| <b>Complementary molecular range</b>         | – Provides a quality first tier screen prior to molecular detection and characterisation using <b>MAST ISOPLEX<sup>®</sup> CRE-ART</b> .                                      |

# MAST<sup>®</sup> CARBA PAcE

## Simple test Process

### Reconstitute



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



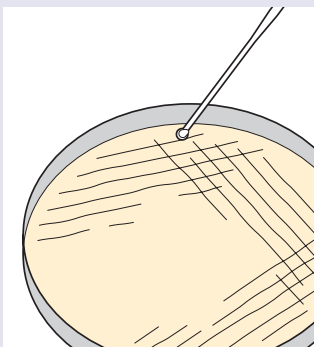
Allow the pellet to fully dissolve at room temperature for 1 minute and mix contents by gently vortexing for 10 seconds.

### Dispense

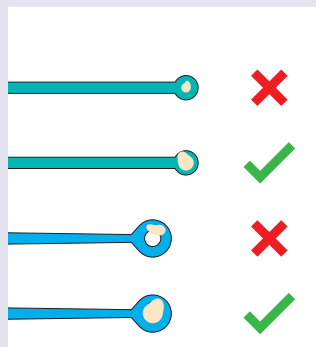


Dispense 250µl of reconstituted solution into the tubes provided. One tube per test.

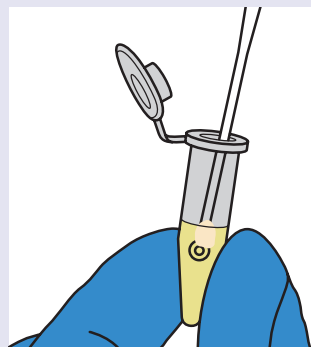
### Inoculate



Use a pure, fresh culture of the test organism.



Take an approximate 1 - 5µl loopful of organism.

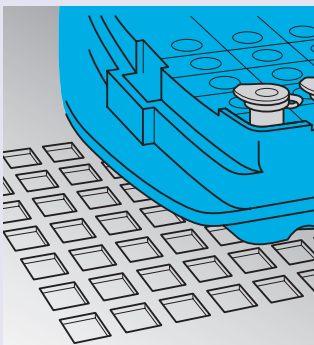


Add to the tube containing test solution.



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<sup>®</sup> CARBA PAcE Process



# MAST® CARBA PAcE

## Ordering Information

| Order Code | Product                                                                                                                                                | Pack Size    | No. Tests |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|
| PACE-ID    | <b>MAST® CARBA PAcE</b><br>For the rapid detection of carbapenemase producing<br>Enterobacterales, <i>Pseudomonas</i> spp. & <i>Acinetobacter</i> spp. | 4 × 12 tests | 48        |

## Additional products from Masts AMR range

| Order Code | Product                                                                  | Pack Size    | No. Tests |
|------------|--------------------------------------------------------------------------|--------------|-----------|
| DNA/LYO5   | <b>MAST ISOPLEX® CRE-ART</b>                                             | 10           | 10        |
| D73C       | <b>MASTDISCS® Combi Carba plus</b>                                       | 5 × 50 discs | 50        |
| D72C       | <b>MASTDISCS® Combi AmpC, ESBL &amp; Carbapenemase<br/>Detection Set</b> | 6 × 50 discs | 50        |
| D74        | <b>MAST®ICT Indirect Carbapenemase Test</b>                              | 25           | 25        |
| D71C       | <b>MASTDISCS® ID CAT-ID - Carbapenemase Activity Test</b>                | 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

HMRZ compound used in this product was developed by Dr. Hideaki Hanaki of Kitasato Institute, Japan.

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KPC

VIM

# **MAST**ISOPLEX<sup>®</sup> 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<sup>®</sup> CRE-ART

## Introduction

The spread of carbapenemase producing organisms (CPOs) 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 worldwide threat of CPOs 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<sup>®</sup> CRE-ART

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



## Benefits of MASTISOPLEX<sup>®</sup> 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):

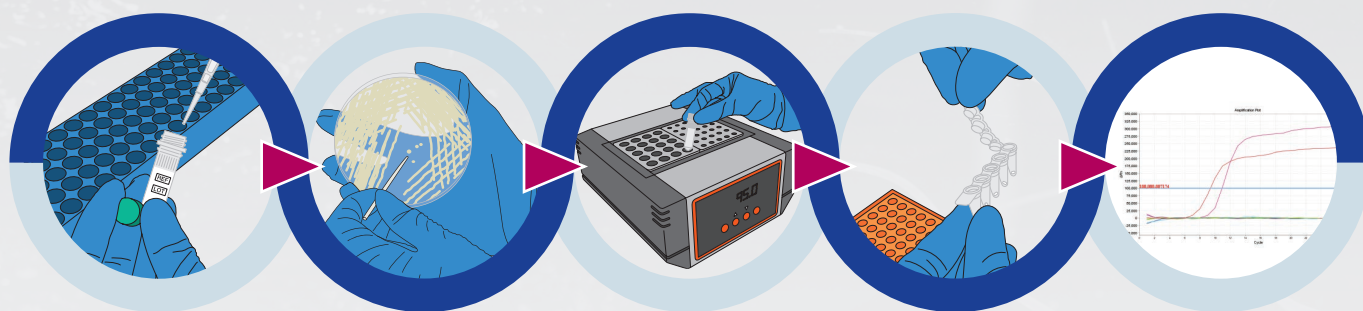
Rapid identification allows accurate resistance monitoring in addition to preventing outbreaks through hospitals and the community

### 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.

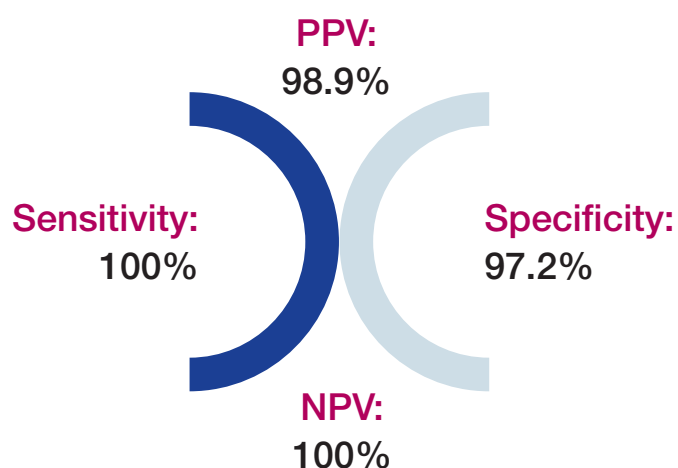
### Prepare CRE-ART Strip Tubes:

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



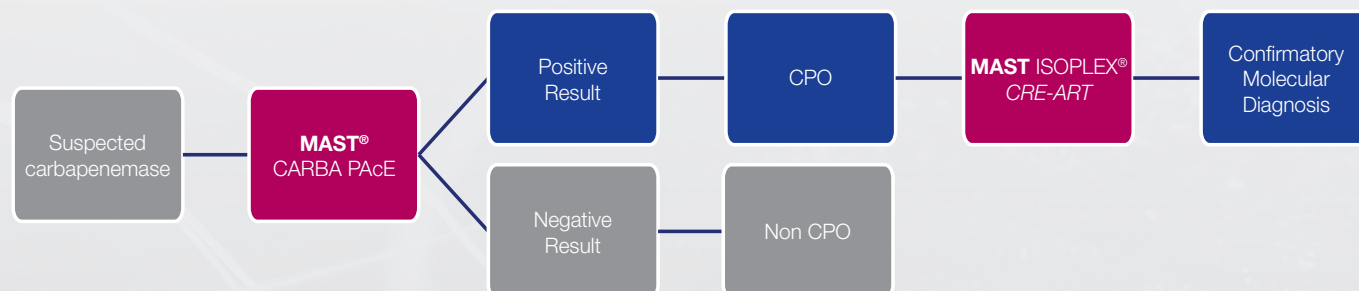
“Highly effective at detecting carbapenemase genes”

“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 |
|------------|------------------------------|----------|
| DNA/LYO5   | <b>MAST ISOPLEX® CRE-ART</b> | 10 tests |

## Related products

| Order Code | Product                           | Packsize  |
|------------|-----------------------------------|-----------|
| PACE-ID    | <b>MAST® CARBA PAcE</b>           | 48 tests  |
| DNA/LYO1   | <b>MAST ISOPLEX® DNA Lyo</b>      | 100 tests |
| DNA/LYO2   | <b>MAST ISOPLEX® DNA Lyo Plus</b> | 100 tests |
| DNA/LYO3   | <b>MAST ISOPLEX® VTEC</b>         | 20 tests  |
| DNA/LYO4   | <b>MAST ISOPLEX® E.coli O157</b>  | 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  $\beta$ -lactamases. Clin Microbiol Rev. 2014, Apr;27(2):241-63

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