



ANTIMICROBIAL
RESISTANCE



COVID-19



WOMEN
HEALTH



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DEVELOPMENT

Detect and Prevent Antimicrobial Resistance (AMR)

AMR is a major public
health concern...

...but it can be tackled
by using a NG RAPID Test

RAPID diagnostic tests for the easy, fast, accurate detection of **expressed** Mechanisms of Resistance to Antibiotics in (multi) drug-resistant bacteria



Detects and Differentiates carbapenemase groups
KPC, OXA-48, VIM, IMP and NDM

Sample Preparation kit for antimicrobial resistance
direct detection from positive blood culture



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LABORATOIRES

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NG Biotech's RAPID diagnostic tests detect the expressed Mechanisms of Antibiotic Resistance in (multi) drug-resistant bacteria



RAPID

- Results in **less** than **15 minutes**
- Hands-on-time of **less** than **5 minutes**.



COST-EFFICIENCY

- **Competitive price** per test
- Minimal hands on time
- Improved patient management
- No equipment required.



IMPACT

- Guides an **optimal antibiotic treatment**
- Better management of patients (admissions, treatment, surveillance etc)
- Contributes to the rapid control of **outbreaks**
- **Active surveillance** of **high-risk** patients (long-term care facilities, in transplant units, surgery and ICUs) and of **transferred patients** (across borders and between healthcare facilities).



ACCURATE

- Detection of **the expressed mechanism of resistance**
- High **sensitivity** and **specificity**
- Validated with relevant challenge strains, including those recommended by **CLSI** and **EUCAST**.



USER-FRIENDLY

- **Easy** to use and to **integrate** in the clinical microbiology lab **workflow**
- **Simple** preparation protocol
- No instrumentation required.



PERFORMANCE

when compared to other molecular methods

- **NG RAPID Test** accurately detect and identify the mechanisms of resistance
- The performance of the **NG RAPID Test** has been extensively validated.

REF: EPY002AMR / REV: 211028



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Unlock the potential of rapid diagnostics in clinical microbiology

NG•TEST®/CARBA-5



CE FDA

• **NG RAPID Test CARBA-5** detects the presence of all the 3 classes of Carbapenemase hydrolytic enzymes expressed by Carbapenemase Producing bacteria, identifying up to the 5 major types of carbapenemase enzymes in Enterobacteriaceae or NFGNB, from a bacterial colony. The NG RAPID Test CARBA-5 identifies the most prevalent carbapenemase families (NDM, IMP, VIM, OXA-48 and KPC) including their most clinically relevant variants in the same cassette.

Sensitivity: 100%

Specificity: 100%

NG-Test® CARBA 5 detects the following variants:

- Type NDM: NDM-1 -2 -3 -4 -5 -6 -7 -8 -9 -11 -19
- Type KPC: KPC-1 -2 -3 -4 -5 -6 -7 -12 -14 -23 -28 -39
- Type IMP: IMP-1 -2 -4 -5 -6 -7 -8 -10 -11 -13 -14 -15 -16 -18 -19 -22 -26 -29 -31 -37 -39 -46 -47 -56 -58 -61 -63 -71 -79
- Type VIM: VIM-1 -2 -4 -5 -6 -19 -23 -26 -27 -31 -39 -46 -51 -52 -54 -56 -58 -59
- OXA-48-like: OXA-48 -162 -181 -204 -232 -244 -245 -370 -436 -484 -515 -517 -519 -535 -793

References:

1. Boutal, Hervé et al. "A multiplex lateral flow immunoassay for the rapid identification of NDM-, KPC-, IMP- and VIM-type and OXA-48-like carbapenemase-producing Enterobacteriaceae." The Journal of antimicrobial chemotherapy vol. 73,4 (2018): 909-915. doi:10.1093/jac/dkx521
2. Volland, Hervé et al. "Improvement of the Immunochromatographic NG-Test Carba 5 Assay for the Detection of IMP Variants Previously Undetected." Antimicrobial agents and chemotherapy vol. 64,1 e01940-19. 20 Dec. 2019. doi:10.1128/AAC.01940-19
3. Bodendoerfer E, Keller PM, Mancini S. Rapid identification of NDM-, KPC-, IMP-, VIM- and OXA-48-like carbapenemase-producing Enterobacteriales from blood cultures by a multiplex lateral flow immunoassay. J Antimicrob Chemother. 2019 Jun 1;74(6):1749-1751. doi:10.1093/jac/dkz056. PMID: 30789220.

NG•TEST®/CTX-M Multi

Rapid detection of Extended Spectrum
Beta-Lactamase (ESBL)



CE

• **NG RAPID Test CTX-M Multi** detects the presence of the 5 major groups in the CTX-M-type enzymes of extended-spectrum β -lactamases (ESBLs) produced by Enterobacteriaceae, from a bacterial colony. The Rapid Tests detects enzymes belonging to CTX-M Groups 1, 2, 8, 9 and 25 including their most clinically relevant variants in the same cassette.

Sensitivity: 100%

Specificity: 100%

NG-Test® CTX-M detects the following variants:

- Group 1: CTX-M-1 -3 -10 -15 -32 -37 -55 -57 -71 -82 -101 -182
- Group 2: CTX-M-2
- Group 8: CTX-M-8
- Group 9: CTX-M-9 -13 -14 -17 -18 -19 -24 -27 -38 -65 -93
- Group 25: CTX-M-94, -100

References:

1. Bernabeu, Sandrine et al. "A lateral flow immunoassay for the rapid identification of CTX-M-producing Enterobacteriales from culture plates and positive blood cultures. Diagnostics (Basel)" 10:764. https://doi.org/10.3390/diagnostics10100764. Apr. 2021. doi:10.1007/s10096-021-04251-0
2. Bianco G, Boattini M, Iannaccone M, Cavallo R, Costa C. Evaluation of the NG-Test CTX-M MULTI immunochromatographic assay for the rapid detection of CTX-M extended-spectrum- β -lactamase producers from positive blood cultures. J Hosp Infect. 2020 Jun;105(2):341-343. doi: 10.1016/j.jhin.2020.02.009. Epub 2020 Feb 21. PMID: 32092366
3. Boattini, Matteo et al. "Fast-track identification of CTX-M-extended-spectrum- β -lactamase- and carbapenemase-producing Enterobacteriales in bloodstream infections: implications on the likelihood of deduction of antibiotic susceptibility in emergency and internal medicine departments." European journal of clinical microbiology & infectious diseases : official publication of the European Society of Clinical Microbiology. 2021 Feb. 2021. doi:10.1007/s10096-021-04192-8. 17 Feb. 2021. doi:10.1007/s10096-021-04192-8.

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Unlock the potential of rapid diagnostics in clinical microbiology

NG•TEST®/MCR-1

Rapid detection of Colistin resistance



• **NG Test® MCR-1** allows for the Rapid detection of Colistin resistance.

• **NG Test® MCR-1** detects the presence of the MCR-1 enzyme responsible for Polymyxin E (colistin) resistance in Gram Negative bacteria, from a bacterial colony.

Sensitivity: 100%

Specificity: 98.3%

References:

1. Volland, Hervé et al. "Development and Multicentric Validation of a Lateral Flow Immunoassay for Rapid Detection of MCR-1-Producing Enterobacteriaceae." *Journal of clinical microbiology* vol. 57,5 e01454-18. 26 Apr. 2019. doi:10.1128/JCM.01454-18
2. Fenwick, Alexander J et al. "Evaluation of the N G-Test MCR-1 Lateral Flow Assay and EDTA-Colistin Broth Disk Elution Methods To Detect Plasmid-Mediated Colistin Resistance among Gram-Negative Bacterial Isolates." *Journal of clinical microbiology* vol. 58,4 e01823-19. 25 Mar. 2020. doi:10.1128/JCM.01823-19.

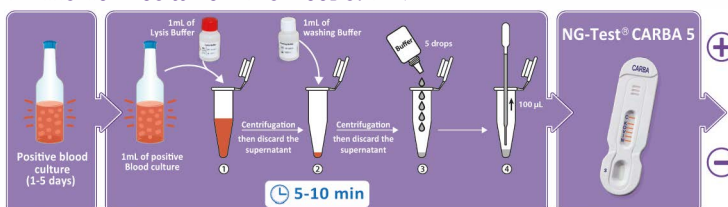
NG•TEST®/Blood culture prep



• **NG Test® Blood culture prep** - Sample preparation kit to be used in the preparation of bacterial extracts from a Positive Blood Culture, for use instead of starting from a bacterial colony, by the CARBA-5 test.

• **NG Test® Blood culture prep** allows the Rapid and Direct detection of carbapenemases in CPE bacteria using the NG RAPID Test CARBA-5.

IDENTIFICATION PROCESS FROM DIRECT BLOOD CULTURE:



References:

- Bodendoerfer E, Keller PM, Mancini S. Rapid identification of NDM-, KPC-, IMP-, VIM- and OXA-48-like carbapenemase-producing Enterobacteriales from blood cultures by a multiplex lateral flow immunoassay. *J Antimicrob Chemother*. 2019 Jun 1;74(6):1749-1751. doi: 10.1093/jac/dkz056. PMID: 30789220.

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