ANTIMICROBIAL RESISTANCE

New range of rapid tests for Antimicrobial Resistance detection from cultured colonies

NG-Test MCR-1
NG-Test CARBA 5
NG-Test CTX-M

Rapid detection of
- Mobilized colistin resistance
- Carbapenemase Producing enterobacteriaceae
- Extented Spectrum Beta-Lactamase (ESBL) Producing enterobacteriaceae

General procedure for the AMR tests

1. Add 5 drops of culture colonies to 100 µL of Buffer

Performance Characteristics

The detection limit was determined using purified recombinant enzymes.

NG-Test MCR-1 detection threshold: 350 pg/mL.

About MCR Genes, an Emerging Threat

The mcr-1, mcr-2 and mcr-3 genes cause resistance to colistin, a last-resort antibiotic used for treating resistant infections. Colistin is considered a last-resort antibiotic because while it can be used to treat patients with infections that have already developed resistance to other antibiotics, it can have serious side effects. (Source: CDC).

Negative
Positive
Invalid
Invalid

Interpretation

NG-Test MCR-1: Culture Cassette

4-30°C 24 months NGB-MCR-S23-00220 tests

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MCR

These tests were developed in collaboration with the CEA*.

*The French Alternative Energies and Atomic Energy Commission (CEA) is a key player in research, development and innovation.

www.ngbiotech.com
AMR is a Global Health Issue

- Antimicrobial Resistance (AMR) infections are increasing
- Antibiotic resistance can affect anyone, of any age, in any country.
- 700,000 people die each year globally and 25,000 in the EU & 23,000 in the US
- AMR – a major European and Global challenge (DG Santé)

Deaths attributable to antimicrobial resistance every year by 2050

Without action, by 2050 someone could die every three seconds as a result of AMR, says the Review on Antimicrobial Resistance. That’s 10 million people a year.

The majority of deaths will occur in Africa and Asia – over 4 million in each region. The estimated death toll for the rest of the world is lower, but could still reach nearly 400,000 in both Latin America and Europe.

(Source: Review on Antimicrobial Resistance 2014)
**AMR is a Global Health Issue**

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**Performance Characteristics**

**Detection limit**  
The detection limit was determined using purified recombinant CTX-M-15 enzyme and evaluated at 200 pg/mL.

**Validation on a reference strain bank**  
NG-Test CTX-M was evaluated on 175 clinical strains at the CNR of CHU Kremlin Bicêtre - Paris - France (AMR French Referent Center). LFIAs validation with 175 isolates (characterized β-lactamase by PCR).

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Sensitivity : 100%  
Specificity : 100%

Interpretation

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**Performance Characteristics**

**Detection limit**  
The detection limits were determined using purified recombinant enzymes:
- NDM 150pg/mL
- IMP 200pg/mL
- VIM 300pg/mL
- OXA 300pg/mL
- KPC 600pg/mL

**Validation on a reference strain bank**  
NG-Test CARBA 5 was evaluated on 167 clinical strains at the CNR of CHU Kremlin Bicêtre - Paris - France (AMR French Referent Center). Considering the carbapenemases targeted all the results were correlated with the genotype of the strains determined by PCR analysis.

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Sensitivity : 100%  
Specificity : 100%

Interpretation

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General procedure for the AMR tests

1. 5 drops of buffer
2. Culture colonies
3. 100 µL
4. 100 µL