

**PCR-/NAT Carbapenemasen
 (RV 544) November 2021**



Tabelle 1: Probenzusammensetzung und erwartetes Ergebnis.

Sample composition and expected results.

| | <i>Erwartet / expected</i> | | <i>Probenzusammensetzung / Sample composition</i> |
|---------|----------------------------|---------|--|
| 2125441 | ∅ | 62 | <i>Escherichia coli</i> K12 |
| 2125442 | +++ | 61 / 72 | <i>Ent. cloacae</i> complex VIM-1 (~ 1x10 ⁷ genome copies/mL) |
| 2125443 | +++ | 61 / 73 | <i>K. pneumoniae</i> OXA-181 (~ 1x10 ⁷ genome copies/mL) |
| 2125444 | +++ | 61 / 77 | <i>C. freundii</i> GIM-1 (~ 1x10 ⁷ genome copies/mL) |

Tabelle 2: Häufigkeit der Mitteilung verschiedener Befunde.

Absolute numbers of reported individual results.

| <i>n = 88</i> | <i>Probennummer (Sample no.)</i> | | | | <i>Inhibition</i> | | | | |
|--|----------------------------------|---------|------------------|------------------|-------------------|---------|---------|---------|----|
| | 2125441 | 2125442 | 2125443 | 2125444 | 2125441 | 2125442 | 2125443 | 2125444 | |
| Befund <i>Result</i> | | | | | | | | | |
| Positiv | 0 | 88 | 85 ¹⁾ | 19 ²⁾ | n.d. | 3 | 3 | 3 | 3 |
| Negativ | 88 | 0 | 3 | 69 ³⁾ | nein <i>no</i> | 85 | 85 | 85 | 85 |
| Fraglich <i>Questionable</i> | 0 | 0 | 0 | 0 | ja <i>yes</i> | 0 | 0 | 0 | 0 |

Tabelle 3: Häufigkeit richtig positiver und richtig negativer NAT-Befunde bei Anwendern verschiedener Methoden.

Absolute numbers and relative frequency of reported true positive and true negative results among various NAT methods.

| NAT-Methode [Code] (total number *) | NAT richtig positiv <i>True positive results</i> | | | | | | NAT richtig negativ | |
|---|--|-----|-----------------------------------|-----|-----------------------------------|-----|-----------------------------------|-----|
| | 2125442 | | 2125443 | | 2125444 | | 2125441 | |
| | <i>Absolut</i> <i>Absolute</i> | % | <i>Absolut</i> <i>Absolute</i> | % | <i>Absolut</i> <i>Absolute</i> | % | <i>Absolut</i> <i>Absolute</i> | % |
| AID Carbapenemase (n = 3) | 3 | 100 | 3 | 100 | 3 | 100 | 3 | 100 |
| eazyplex superbug complete A/B/C (n=10) | 10 | 100 | 8 | 80 | 0 | 0 | 10 | 100 |
| eazyplex superbug expert (n=1) | 1 | 100 | 1 | 100 | 0 | 0 | 1 | 100 |
| Cepheid Xpert Carba-R (n = 46) | 46 | 100 | 46 | 100 | 3 | 7 | 46 | 100 |
| Check Direct CPE oder MDR (n = 1) | 1 | 100 | 1 | 100 | 0 | 0 | 1 | 100 |
| Seegene Allplex Entero-DR (n = 6) | 6 | 100 | 6 | 100 | 2 | 33 | 6 | 100 |

| | | | | | | | | |
|---------------------------------------|----|-----|----|-----|---|----|----|-----|
| LightMix Modular Carbapenemase (n= 4) | 4 | 100 | 4 | 100 | 0 | 0 | 4 | 100 |
| In house PCR assay (n = 12) | 12 | 100 | 11 | 92 | 9 | 75 | 12 | 100 |
| Other commercial tests (n = 5) | 5 | 100 | 5 | 100 | 2 | 40 | 5 | 100 |

- Comments:**
- ¹⁾ One participant has wrongly reported detection of the IMP gene in sample # 2125443.
 - ²⁾ One participant has wrongly reported detection of the KPC gene in sample # 2125444.
 - ²⁾ Three participants have wrongly reported detection of the CTX-M gene in sample # 2125444.
 - ³⁾ Sixty nine participants missed to detect the GIM gene in sample # 2125444.

Unter "**Andere kommerzielle Testsysteme**" wurden diesmal folgende Testsysteme aufgeführt: BD Max Check-Points CPO Assay (1x), Amplex eazyplex SuperBug CRE (1x), AmpliGnost Carbapenemase PCR Kit (1x), Bruker-Hain Carbaplex (1x) und Amplitude MDR Kit 1, 4, 5 (1x).