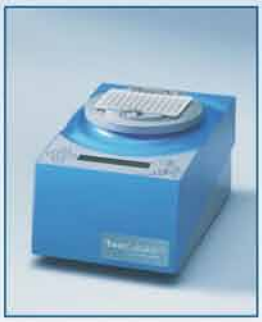
GenoType® Enterococcus

Based on DNA•STRIP® Technology

- simple
- safe
- fast
- easy to combine
- can be automated



CE-labelling

Quality management certified to ISO 9001/13485

Enterococci are grampositive bacteria of low pathogenicity, but they are of increasing significance among patients with poor general conditions. They are among the most common causes of nosocomial infections, e.g. the causative agents of urinary tract infections, infections in the region of dialysis shunts and also wound infections, endocarditis and meningitis. The principal agents are *E. faecalis* (~90%) and *E. faecium* (~10%). Enterococci show intrinsic resistance against many antibiotics (cephalosporines, chinolones, clindamycin) and can develop additional resistances becoming highly resistant to penicillins or aminoglycosides. Due to the absence of therapeutic alternatives, however, the increasing incidence of vancomycin-resistant enterococci (so-called "VRE") must be considered as particularly problematic. Vancomycin resistance is mediated by *van* genes, the expression of which leads to a change in the structure of the cell wall (see fig. 1). Among clinical isolates, the *vanA*-type inducing resistance to both vancomycin and teicoplanin is the most dominant. Conventional procedures (e.g. microdilution) only detect the phenotypical characteristics of the resistance but not its genetic base. Furthermore these procedures are very time-consuming, so that a reliable diagnosis is only possible after 2-5 days, although a rapid detection of the vancomycin resistance is of great therapeutic and epidemiological significance.

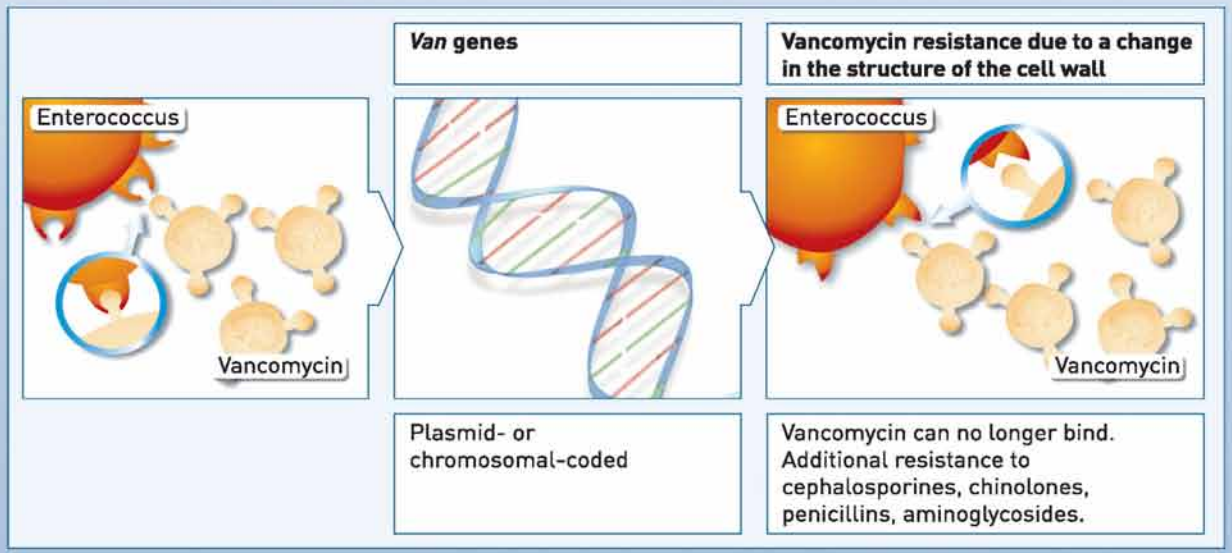


Fig. 1: Molecular basis of vancomycin resistance

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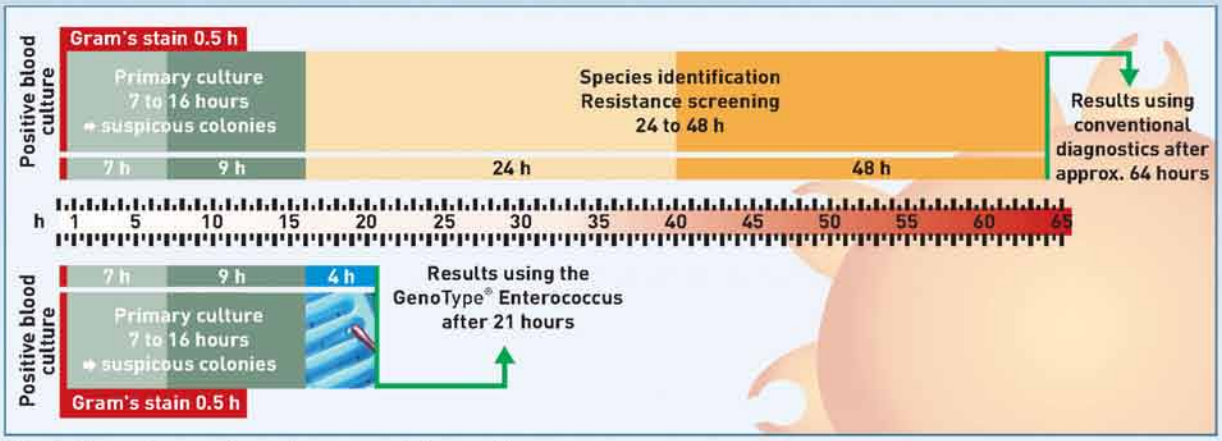

Fig. 2: Time elapsed for enterococcal diagnostics

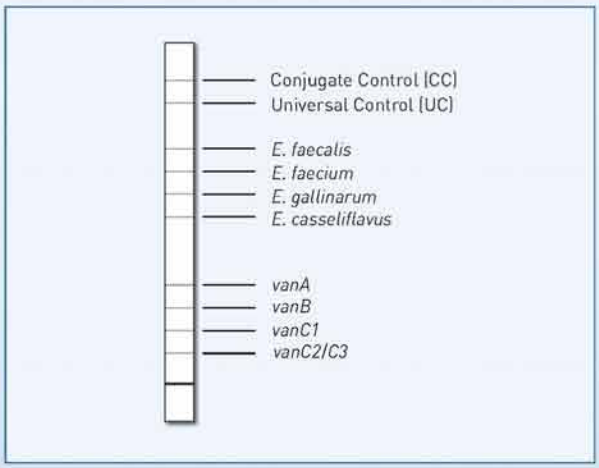

Fig. 3: Reaction zones of the **GenoType® Enterococcus**

Species differentiation and resistance screening in one single step

The **GenoType® Enterococcus** offers an essential gain of time in the diagnostics of enterococci. In simultaneously carrying out species differentiation and resistance screening it is possible to identify the species *E. faecalis*, *E. faecium*, *E. casseliflavus* and *E. gallinarum* and at the same time to verify a potential vancomycin resistance (*vanA*, *vanB*, *vanC1* and *vanC2/C3*).

Your cost-effective entry into molecular genetic diagnostics

By simply combining **GenoType® Enterococcus** with other assays of the **GenoType®** series and thanks to minimized technical requirements even small laboratories benefit from efficient and modern diagnostics. All **DNA•STRIP® Technology**-based assays can easily be incorporated into your routine diagnostics, both in a manual and automated manner. In addition to **GenoType® Enterococcus** our microbiological product series offers a number of further tests. For technical information, please refer to the brochure "**DNA•STRIP® Technology**".

Enterococcus Fact Sheet

Description:

- Gram-positive cocci from the gastrointestinal tract of humans and animals
- Enterococci constitute a fraction of 15% in clinical specimens
- Most important representatives are *E. faecalis* and *E. faecium*

Clinic:

- Low pathogenicity
- Frequently found in mixed infections of urinary tract, gall bladder and wound infections
- Possible complications are endocarditis and meningitis

Resistance pattern:

- Intrinsically resistant to cephalosporines, chinolones, clindamycin and glycopeptides (*vanC1*: *E. gallinarum*; *vanC2, 3*: *E. casseliflavus*, *E. flavescens*)
- Acquired resistance to vancomycin und teicoplanin (*vanA*: *E. faecalis*, *E. faecium*)
- Acquired resistance to vancomycin (*vanB*: *E. faecalis*, *E. faecium*)

Diagnostics:

- The detection of species-specific DNA sequences and *van* genes using PCR are considered to be the reference method.

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