



Description:

- *Enterococcus* is a genus of Gram-positive cocci. Its species are facultative anaerobic, lactic acid bacteria.
- M. E. Thiercelin described this genus first in 1899.
- *Enterococci* are often grouped in pairs (diplococci) or short chains.

Interesting Facts:

- *Enterococcus* bacteria are present in the intestinal flora of humans and animals. Also, they are present in plants, soil, and water.
- This genus includes a large number of different species.
- Some *Enterococcus spp* can survive temperatures of 60°C for short periods of time and can grow in high salt concentrations.
- The most common species of *Enterococcus* in humans are *Enterococcus faecalis* (*E. faecalis*) and *Enterococcus faecium*.
- *Enterococcus* species have been used in the food industry as probiotics or starter cultures as they are able to survive the digestive process and flourish in the gut.

Infection:

- Although for many years *Enterococcus spp* were believed to be harmless to humans, they are now considered to be significant human pathogens.
- Their resistance to antibiotics, both intrinsic and acquired, is becoming increasingly common. Some species of *Enterococcus* are classified as "high priority" in the list of Antibiotic Resistant Bacteria, created by the World Health Organisation.
- Some of the most common infections cause by *Enterococci* are meningitis, bacterial endocarditis, urinary infections and diverticulitis.
- *Enterococci* are also some of the leading causes of hospital-acquired infections such as bacteraemia.

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- Slanetz and Bartley Media (SBM) are used to examine for the presence of *E. faecalis*. This is then confirmed using identification techniques such as MALDI-ToF (Matrix Assisted Laser Desorption Ionization-Time of Flight).
- On blood agar plates, *Enterococci* appear as grey colonies and are usually alpha-hemolytic and on gram stain they appear as gram-positive cocci in pairs and short chains.
- Rapid biochemical tests can identify colonies of *Enterococci* within minutes based on the ability of almost all *Enterococcal* species to hydrolyze pyrrolidonyl-beta-naphthylamide (PYR).
- For identification of newer species of *Enterococci*, a combination of conventional biochemical tests and evaluation of DNA content is needed.
- *E. faecalis* is a faecal indicator organism and is one of the various microorganisms used as a positive control in the Microbial Examination of Water for human consumption as per The Water Supply (Water Quality) Regulations 2000 (SI2000 No. 3184).
- Laboratories should be alert to the possibility of contamination of specimens with vancomycin-resistant *Enterococcus spp* from the laboratory environment.

