

Corynebacterium

Corynebacterium is a genus Bacteria characterized by **club-shaped** G + (*Gram staining*) rods and the arrangement of its daughter cells at obtuse angles. A typical representative is *Corynebacterium diphtheriae* (in the older literature you will find the term **diphtheroids** for the whole genus).

Together with the genera *Arcanobacter*, *Gardnerella*, *Rhodococcus* and *Rothia*, they form a group of **irregular, non-sporulating aerobic** bacteria.

Morphology

This genus of bacteria is very heterogeneous. Bacteria are included in it on the basis of evaluation by chemotaxonomic methods or genetic analyzes. However, some characters are more common.

Corynebacteria are usually long straight or slightly curved (**clubby or coryneform**) rods. The cytoplasm stains inhomogeneously and may contain **a metachromatic granule**, which we demonstrate **Light microscopy staining according to Albert**.

Corynebacteria are **G +** or **gramlabile** (e.g. **Corynebacterium diphtheriae**) bacteria. From the point of view of the complexity of the presence of oxygen in the environment, we rank them among *aerobes* or *facultative anaerobes*. It forms the enzyme *catalase*, which we prove Catalase test. Glucose and other sugars are metabolized to acids. Most representatives are immobile, but there are also moving exceptions. They are not acid-resistant. In the microscope, the arrangement of corynebacteria resembles Chinese writing or spilled tea.

Cultivation

 For more information see *Cultivation soils*.

Corynebacteria are undemanding bacteria, they grow reliably on **blood agar**. They do not grow on Mueller-Hintono agar (MH agar) without blood.

Cell division

The division of corynebacteria has a different course than is customary, for example, for enterobacteria.

The original cell first elongates and a so-called septum forms inside its cytoplasm. Then the original bacteria break **incompletely** (at the septum) and the daughter cells remain joined for a while, creating a **blunt angle** of 90-100%. Such a formation resembles the letter V and is referred to as raven wings. At other times, they form a row of sticks next to each other, resembling stakes in a wall (palisade).

Links

Related articles

- Prokaryotes

References

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