Practical work of Cellular Biology

PW N° 01 : Bacterial cell

Objective : Observation of prokaryotic cells (baterial cells)

- ➔ Microscopic observation of bacteria in the fresh state.
- ➔ Microscopic observation of bacteria after staining with methylene blue.

A) Observation of bacteria in the fresh state:

Purpose: Examination in the fresh state allows observation of living bacteria in the absence of fixation or staining. This method allows us to observe:

- ➔ Bacterial morphology
- ➔ Their grouping mode
- ➔ Their mobility

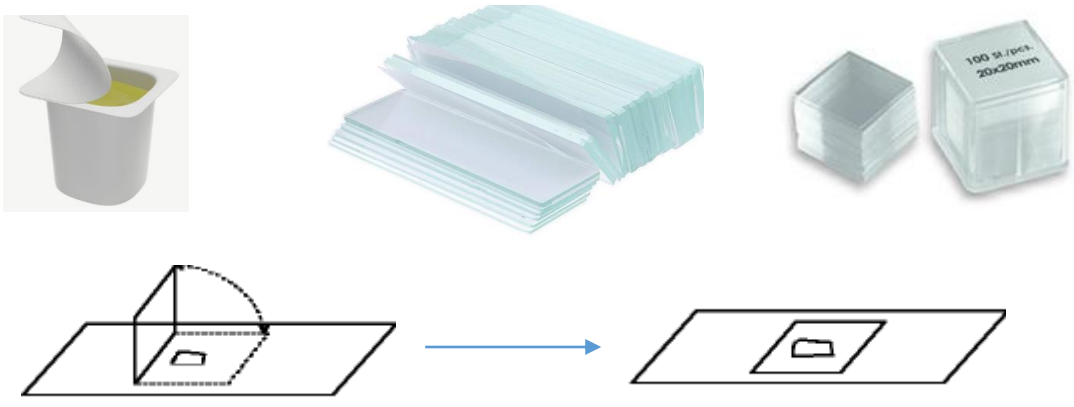
Principle: a drop of bacterial suspension is observed between slide and coverslip.

Material:

- ➔ Bacterial suspension
- ➔ Pasteur pipette
- ➔ Slides and coverslips
- ➔ Microscope

Technique: a drop of bacterial suspension (we use the yoghurt serum) is taken with a Pasteur pipette, taking sterile precautions, and placed in the middle of a clean slide, gently covered with a well-oriented coverslip.

The drop should be sufficient but proportionate to the slide used. The liquid must not overflow.



Observation: Observe the preparation through the objective lens (x40).

B) Observation of bacteria after staining

Methylene blue staining:

Purpose: To clarify bacterial morphology and structure.

Preparation of a smear:

- Take a clean degreased slide.
- Take a drop of the suspension and spread it out in a thin even layer.
- Quickly dry the preparation by passing it over the flame of a Bunsen burner.
- Cover the slide with methylene blue.
- Leave to act for 5 to 10 minutes.
- Rinse with water.
- Dry with Joseph paper or in air.

Observation: Observe the preparation through the objective lens wet (immersion lens)