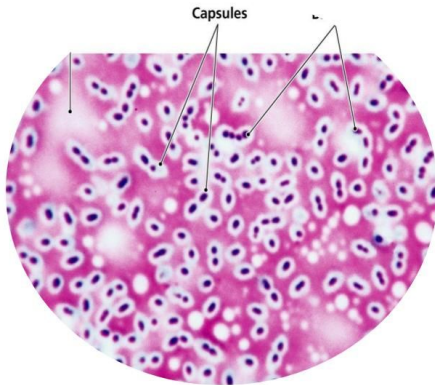


Capsule Stain

Results & Observations



Type Differential stain

- Extracellular glycocalyx slime layer enhances its pathogenicity
- Virulence factor: prevents phagocytosis
- NOT HEAT-FIXED, NO WATER/ NO MORDANT

Purpose

Bacteria use capsules to evade host's immune system, for Cell protection and water storage

Procedure

1. Smear Slide
2. Air Dry Do Not Heat Fix
3. Flood Smear with **Crystal Violet** (1 min.) * primary capsule stain*
4. Rinse with **Copper Sulfate** [CuSO₄] (30 sec.) *capsule stain decolorizer*
5. Blot Dry
6. View With Oil Immersion

Stain will color cell & background. Capsule will appear uncolored or light blue.

Interpretation & Questions:

1. Why didn't you heat-fix this slide?

Capsules are delicate structures that are destroyed by heat-fixing; it can cause the cells to shrink and leave an artificial white halo around it that can be mistaken as a capsule.

2. How would you describe the morphology and arrangement of the cells in your stained preparations?

Stain will color the cell & background. Capsule will appear as a faint blue halo around a purple cell.

3. Why is the presence of a capsule clinically significant?

Capsules allow bacteria to be pathogenic. They can make the cell virtually invisible

Examples of organisms with capsules:

Streptococcus pneumoniae (pathogenic)
Neisseria meningitidis (pathogenic)
Flavobacterium capsulatum