

Negative Stain

Results & Observations



Organism: Bacillus & Klebsiella

Interpretation & Questions:

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

Heat-fixing smears can distort cell size and cell shape. Since negative stain slides are not heat-fixed, cell shape and size are not distorted and can be accurately observed.

Negative staining is particularly appropriate for visualizing delicate structures like capsules and cells like the spirilla and spirochetes.

2. *EXAMPLE IN THE BOOK*

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

Bacillus cereus is a large bacillus or rod-shaped organism.

Klebsiella are small, short bacilli.

3. What morphological characteristics would you use to distinguish between Klebsiella & Bacillus on the slide?

Klebsiella growing under these conditions should have a capsule; Bacillus does not.

Klebsiella is also significantly and noticeably shorter than Bacillus.

4. Explain why the cells remain unstained and the background is colored.

The dye used in the negative staining have an acidic chromogen (negatively charged chromophore) that is repelled by the bacterial cell. As a result, the cell remains uncolored and the background is stained.