Department of biology

Microbiology Lab

((Microbial Staining : simple stain))

Lab/4

2 stage

By

Ph.D Asseel Hashim Radhi

Msc. Zahraa Jawad Kadhim

Microbial Staining:

Staining, in microbiology, can be defined as a technique which is used to enhance and contrast a biological specimen at the microscopic level. Stains and dyes are used to highlight the specimen at the microscopic level to study it at higher magnification for histopathological studies and diagnostic purposes.

Types of bacterial staining:

Summary of Common Bacterial Staining Techniques

1-Simple Stains

2-Gram Stain

3-Acid-Fast Stain

4-Endospore Stain

5-Capsule Stain (Negative staining)

6-Flagella Stain

7-Spirochete stain

Why do we have to stain bacteria?

Most types of cells do not have much natural pigment and are therefore difficult to see under the light microscope unless they are stained. Several types of stains are used to make bacterial cells more visible. In addition, specific staining techniques can be used to determine the cells' biochemical or structural properties, such as cell wall type and presence or absence of endospores.

This type of information can help scientists identify and classify microorganisms, and can be used by health care providers to diagnose the cause of a bacterial infection.

The Simple Stain

one type of staining procedure that can be used is the simple stain, in which only one stain is used, and all types of bacteria appear as the color of that stain when viewed under the microscope. Some stains commonly used for simple staining include crystal violet, safranin, and methylene blue. Simple stains can be used to determine a bacterial species' morphology and arrangement, but they do not give any additional information. The purpose of staining is to increase the contrast between the organisms and the background so that they are more readily seen in the light microscope.

Step of Simple staining:-

1-Place the fixed smears on a staining loop or rack over a sink or other suitable place.

2-Stain with any stain for 1 minutes.

3- Wash stain off slide with water for a few seconds.

4- Blot slide dry with bibulous paper.

5- Put the slide on the stage of microscope and begin with low power objective then high power objective lenses lastly with oil immersion objective lens .