



Birzeit University

Biology and Biochemistry Department

Microbiology Lab

BIOL.230

Unknown Experiment

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Date of experiment: from 30.05.2022-02.06.2022

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➤ **Objectives:**

In this Lab report for unknown expirement, I will mention the steps that I did in this days from the day I begin the experiment to the day I get the result (the name of 2 types of the unknown bacteria, and which of this types are sensitive and resistant for the 4 types of antibiotics.)

➤ **Steps & Results:**

On Monday (30.05.2022): An unknown specimen of 2 types of bacteria is taken from a broth medium , tube No. 16 and the streaking is done for this specimen on solid agar medium by the inoculating loop under Aseptic technique & It's put in the incubator at 37°C for 24 hrs to allow the bacterial growth for this specimen.

On Tuesday(31.05.2022): In this day, the result of streaking was shown, by appearing of 2 different types of colonies, one of them was (light yellow) with large circular size= Bacteria B, and the other one was dark yellow with small circular size= Bacteria A, and after recognizing the 2 different colonies, streaking is done for each type of colonies in 2 solid agar media (2 petri dishes) separately, and also the streaking is done for the 2 unknown bacteria(A&B) separately in 1 plate of Chromogenic UTI agar, and then these 3 plates are inocubated at 37°C for 24 hrs.

On Wednesday(01.06.2022): The results of the 3 plates were shown, the colonies of the 2 solid agar plates (bacteria A & bacteria B) was appeared clearly as shown in figure2, and the 3rd plate of chromogenic UTI agar it's result is observed clearly regarding the Bacteria "A" & bacteria "B" as shown in figure1. The bacteria "A" is identified as *Staphylococcus aureus* (Golden yellow) , & Bacteria "B" is identified as *Proteus mirabilis* (light brown).



Figure 1 result of streaking of the bacteria A&B in Chromogenic UTI agar.

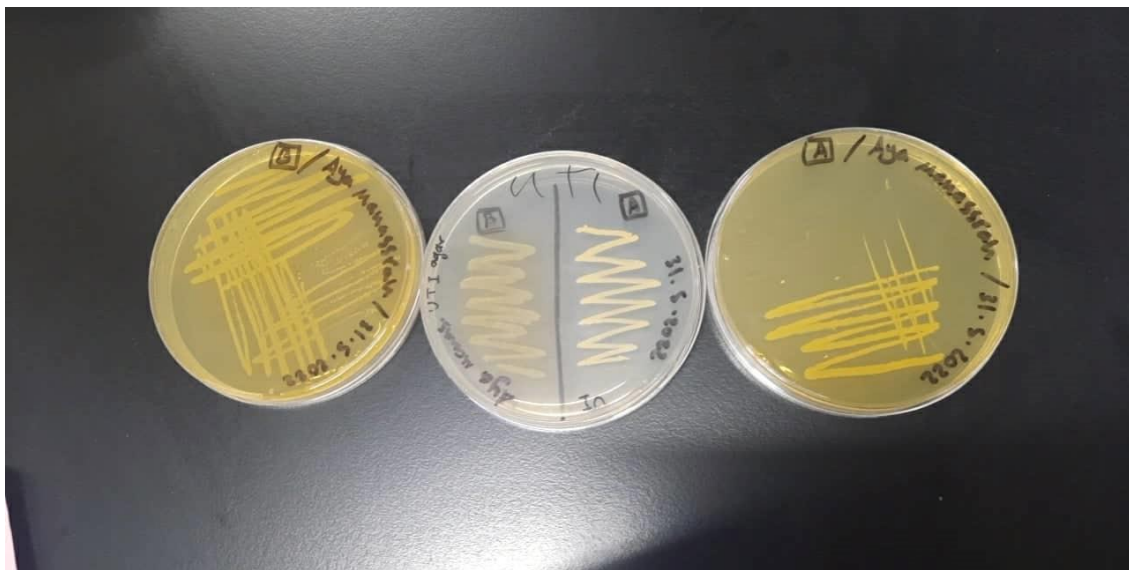


Figure 2 result of streaking bacteria A & B separately in 2 solid agar plates.

Also the 2 types of bacteria(A&B) was tested regarding the effect of antibiotics on the bacterial growth of both types of these bacteria, So the bacteria A & B are inoculated separately in 2 tubes of Normal saline and they are standardized with Mcfarland standard to get a standard turbidity inoculum, then sterile cotton swap is used for doing spreading for each type of the unknown bacteria (A& B) in 2 solid agar plates and then 4 types of antibiotics discs are applied on each plate (Amoxicillin, Ciprofloxacin, Vancomycin, Clindamycin), and then they're inocubated at 37°C for 24 hrs.

On Thursday(02.06.2022): In this day The results of antibiotics effect on the bacterial growth for the 2 types (A&B) were shown as shown in Figure3.
For bacteria A (*Staphylococcus aureus*) it is sensitive for all types of antibiotics in different degrees (AMC, C/P, V/A, CD) respectively, and the diameter of the zone of inhibition was (20mm, 15mm, 14mm, 9mm) respectively for each type of antibiotics. For bacteria B (*Proteus mirabilis*) it is sensitive for (C/P , AMC) respectively(from most to least), and the diameter of the zone of inhibition was respectively (26mm, 20mm) & resistant for (V/A, CD).

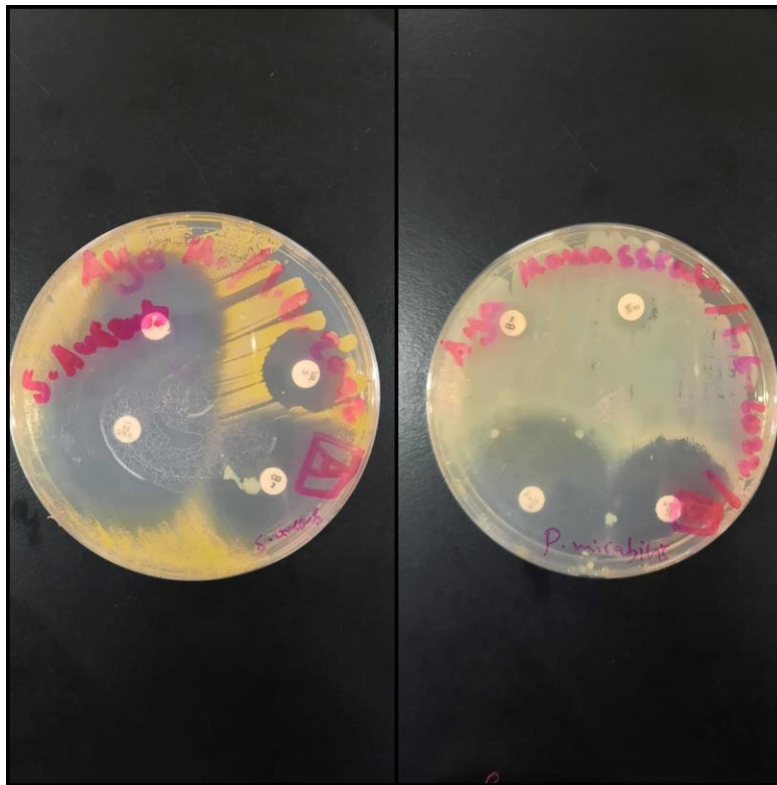


Figure 3 result of antibiotic sensitivity test on the Bacteria S.aureus & P.mirabilis

Bacteria A: *Staphylococcus aureus*

Bacteria B: *Proteus mirabilis*

No. of broth tube that contains the unknown specimen = 16