

Microbiology unknown lab report assignment



**ASSIGN
BUSTER**

Preparing for class - Day I Read in your lab manual about the following agar mediums: Blood Agar (pug 168), EMBED Agar (pug 170), Imitation Salt Agar (172)), McCracken Agar (pug 174), ND PEA Agar (pug 176) to answer the following: 1. What does the blood agar select for? Blood agar allows distinction among bacteria based on their ability to lyse red blood cells (hemolytic activity). 2. What color is the blood agar? Blood red color. 3. What are the 3 types of blood agar results and how can you recognize them? Beta hemolytic, which is the complete lysis of red blood cells and hemoglobin.

This results in complete clearing of blood around the colonies. Alpha hemolytic refers to the partial lysis of red blood cells and hemoglobin, This results in a greenish-grey discoloration of the blood around the colonies.

Gamma hemolytic, sometimes called gamma hemolytic results in no change in the medium. 3. What color is the EMBED agar? Dark blue colonies with green metallic sheen or pink. 4, What does the EMBED agar select for? Gram-negative bacteria. 5. What bacteria can easily be differentiated on EMBED agar? Gram-positive. How is it recognized?

It contains the dyes eosin and methyl blue, which inhibit the growth of gram-positive bacteria. 6. What color is the Imitation Salt Agar (MS)? Yellow color change in surrounding media. 7. What does the MS agar select for? It contains 7.5% sodium chloride, which selects for organisms that are halotolerant. 8. Which bacteria (that we have learned about in lecture) can be seen on MS agar? The organism *Staphylococcus aureus*. How can it be recognized? Capable of imitation fermentation, signified by the color change in the surrounding media. 9. What color is McCracken Agar?

Neutral red, and produce a pink color. 10. What does the McCracken agar select for? Gram. Negative bacteria. 11. What color is PEA agar? Small transparent colonies 12. What does the PEA agar select for? Isolation of obligate anaerobic bacteria. Class day 1 14 We will be setting up the Selective/Differential Media plates for each group s follows: Each group will have one bacteria sample and will do streak plates on each of the 3 agar plates (EMBED, PEA and McCracken). Label the bottom of the plate with your culture name. Invert your plates and stack them in the ICC incubator.

Take care with your technique because each group's plates will be shared with every group in the class. IS Each group will have 2 MS plates, Divide them in half and place the following samples on these plates: Nasal swab S. Epidermises S. erasures Vomits We Will use sterile cotton swabs for the nasal sample and vomits sample. Use your loop for the culture samples. Label your plates, invert them and stack them in the ICC incubator. 16. Each group will have a Blood Agar plate. Swab the back one student's throat (sterile cotton swab) and transfer the sample using streak plating method to the blood agar plate.

Class day 2: Look at the results of your different media plates. 17. In the space below, diagram your plate results. Label plates and color where appropriate, EMBED PEA MAC Blood MS 18 Pill in the following charts to help organize this information: Selects for. Important Bacteria among bacteria as to I hemolytic activity interconnect greenish/gray hue around I Differentiate by I Blood Agar I Color of agar Distinguishes I Clear zone around the I Streptococci and their ability to else Orbs. Bacteria, or I Embargo Distinguishes bacteria that ferment I Dark blue colonies with II. Oil and I <https://assignbuster.com/microbiology-unknown-lab-report-assignment/>

Gram-negative bacteria lactose and or sucrose and those that green metallic sheen or organisms Did not. Pink. Imaginary For organisms that are I Isolates for imitation fermentation I Yellow color change in I Staphylococcus erasures I I I surrounding media, land Staphylococcus I Epidermises I halogenated. I McCracken Agar I Gram- negative bacteria. I Distinguished from lactose fermented Neutral red, and Interrogated arrogates, I ' produce a pink color land E. Coli, Epigram I bacteria or not I Isolation of obligate anaerobic I Distinguished from gram-negative and I transparent E. Oil and I bacteria I Staphylococcus erasures gram-positive bacteria. YOU WILL BE RESPONSE ABLE FOR THE FOLLOWING: o EMBED -?? E. Coli recognition o Imitation Salt - Stash recognition o Blood Agar - Beta/Gamma hemolytic o PEA - Gram (4) recognition o McCracken - Gram G) recognition 19. Match the following plates with the above recognitions: [pick [pick] [pick [pick] [pick] A. McCracken - Gram (-) recognition. 8. Blood Agar -Beta/Gamma hemolytic. Coli recognition. D. Imitation Salt - Stash recognition. C. EMBED-E E. PEA - Gram (+) recognition.

Label-Medicaid Microbiology-Apart - Tests for the Identification of Bacteria, Spasms Preparing for class - Day 1 Read in your lab manual the following tests: Catalane Test (pug I SO), Oxides Test (pug 152), Coagulate Test (pug 166) to answer the following: 1. What do you remember (from lecture) about catalane? It is a common enzyme found in nearly all living organisms exposed to oxygen. 2. What is this enzyme involved in (from What we learned in lecture)? It catalysts the decomposition Of hydrogen peroxide o water and oxygen. 3. What does the Catalane Test test for?

Is primarily used to distinguish among Gram-positive bacteria. 4. What does a positive Catalase Test result look like? Notable bubbling. What does a negative result look like? No bubbling. 5. What does the Oxidation Test test for? To determine if bacteria have stockroom oxides, a participant in electron transport during respiration. 6. What is this enzyme involved in? Identification of bacterial strains: it determines whether a given bacterium produces stockroom oxides (and therefore utilizes oxygen with an electron transfer chain). 7. What does a positive Oxidation Test result look like? Will result in a color change to pink, through maroon and into black, within 10-30 seconds. What does a negative result look like? Will result in a light-pink or absence of coloration. 8. What does the Coagulate Test for? Pathogenic and non-pathogenic staphylococci. 9. What is this enzyme involved in? Staphylococcus aureus 10. Why is coagulate important to bacteria? Because of their ability to cause blood plasma to clot 11. What does a coagulate positive result look like? Indicating by gelling of the plasma, which remains in place even after inverting the tube.

What does a negative result look like? It flows when inverted 12. What bacteria are important in reference to the coagulate test? Staphylococcus aureus and Staph. Epidermidis will demonstrate the Catalase, Oxidation, and Coagulate tests. 13. On the box below, diagram the results of the Catalase Test: Label results 14. In the box below, diagram the results of the Oxidation Test. Label and use color where appropriate. 15. In the box below, diagram the results of the Coagulate Test. Label and color where appropriate. 16. Fill in the following charts to help organize this information. Purpose Negative result

Involved in I Positive Result I I Catalane Test TIT detect the presence tot I
Quickly breakdown H₂O into water and Bubbling I catalane, an enzyme that
degrades 102 hydrogen peroxide I No Bubbling I I Oxides Test I Collects
electrons and facilitates I Purple, maroon and into I Light pink or absent To
determine if bacteria have I their addition to molecular O₂ and black color
color H₂O during I respiration stockroom oxides, a participant I with to form
line electron transport Coagulate Test TIT distinguish between pathogenic I
Activates a pathway that converts I Gelling of the plasma, I Flows when
inverted I and non-pathogenic staphylococci, forefinger in blood plasma into I
remains in place even base on blood plasma clotting I fibrin, the protein
thread sticks I after inverting the tube I forming clots Karen Hogan Label-
Medical Microbiology part-3-Two Additional Tests for Identification of
Bacteria: Latex Agglutination Test and Underwrote II Test Preparing tort class
- Day I Read the Latex Agglutination Test information provided and answer
the following& I. What does agglutination mean? Clumping of bacteria or red
cells when held together by antibodies. 2.

Since we are in microbiology are cooking for the clumping Of Epitomes found
on the surface Of Antigen that Will bind to specific Antibody that were made
by Immune system(B cells). 3. What Will a positive result look like?
Clumping. 4. What will a negative result look like? Dilute liquid no clumping.
Latex Agglutination Test The latex agglutination test is a laboratory method
to check for certain antigens in a variety of bodily fluids including saliva,
urine, cerebration's fluid, or blood. The sample is mixed with latex beads
coated with a specific antibody. Fifth suspected substance is present (the

specific antigen), the latex heads (with the specific antibody) will clump together with the antigen (agglutinate).

Antigen Antibody attached to beads in liquid When the antigen shape matches the antibody shape, they will bind to each other and the cells/antibody/antigen will clump together (as below). Notice how the dark spots are clumping in the liquid. When the antigen shape does not match the antibody shape, they will not bind to each other (see below). Notice that there are no clumps in the liquid. Procedure a) Place a drop of the Latex Control liquid in one of the circles on the test card. The Latex Control liquid will have the liquid contain the latex beads with no antibodies attached. B) Aseptically remove a colony from an agar plate and place it on the circle with the Control liquid.) With the sterile loop, mix the liquid with the colony, d) Place a drop of the Latex Test liquid in the second circle on the test card The Latex Test liquid will have the liquid with antibodies for a specific microbe (in our class, the antigen is for Staphylococcus aureus) attached to the latex beads. E) Aseptically remove a colony from an agar plate and place it in a second circle marked on the test card. F) With the sterile loop, mix the liquid with the colony. G) Compare the mixtures of the two colonies. 5. In the space below, diagram the results Of the Agglutination Test. Use color Preparing for class - Day I Read the Underwrite II System information provided and answer the following: 1. What types of bacteria will the Underwrite II Test identify? E coli. 2. What information will the Underwrite II Test give us?

ID gram-Eng, glucose fermenting, oxacillin-negative intercontinental. The Underwrite II System The basic philosophy of the Underwrite II System is the speed, ease and low cost in the identification Of gram negative, glucose
<https://assignbuster.com/microbiology-unknown-lab-report-assignment/>

fermenting oxides-negative Intercontinental. The Underwrote II System consists of a single tube containing 2 compartment, each containing a different agar culture medium. There are compartments that require aerobic conditions and have small openings that allow air in; those compartments that require anaerobic conditions have a layer of paraffin wax on the top of the media. There is a self- enclosed inoculating needle or wire that runs through the center of the tube.

The end of the needle can touch an isolated bacterial colony and then in one movement can be drawn through the 12 compartments so that every compartment is inoculated. [pick] After 18-24 hours of incubation, the color changes that occur in each of the impairments are recorded and interpreted according to the manufacturers instructions, The interpretation is done by determining a five-digit code from the results and then consulting a coding manual. [pick] Inoculating the tube: a. Remove the caps from both ends of the Underwrote. The tip of the wire is sterile and does not need to be flamed. B. Touch a well-isolated colony from an agar plate with the tip of the wire. C.

Inoculate the Underwrote with the bacterial culture by drawing, and at the same time rotating, the wire through the 12 compartments. D. Push the ever back through the Underwrote so that the 12 hammers are re-inoculated. E. Withdraw the Wire once again until the tip is in the HAS/indolence compartment and then break the wire at the notch by bending back and forth. F. Replace the caps but do not tighten. Losing the Wire remnant, punch holes in the compartments that need to grow aerobically. G. Incubate the Underwrote for 18-24 hours at ICC. Interpreting the tube: a. After 18-24 hours of incubation, examine the Underwrote and notice the color changes

that have occurred in each compartment. B. SE the color code chart provided in class to determine positive and negative results. C. Record both positive and negative results on the small worksheet provided during lab, d, We will skip the Indolence testing and the compartment labeled UP. E. Determine the five-digit identification number: 1. Use only the tests that are positive. Add the numbers under the results within each test section. 2. Enter the sum of the positive tests for each test section in the square labeled ' ID value". F. Determine the identity four enteric unknown by comparing the five- digit identification number with the Underwrote II Interpretation Guide (manual provided during lab), bacteria.