BIO 201 Lab 9
Experiments 13,14, 17, & 18
Results

Professor Diane Hilker

Overview

I. Exp. 13: Evaluation Antimicrobial Agents

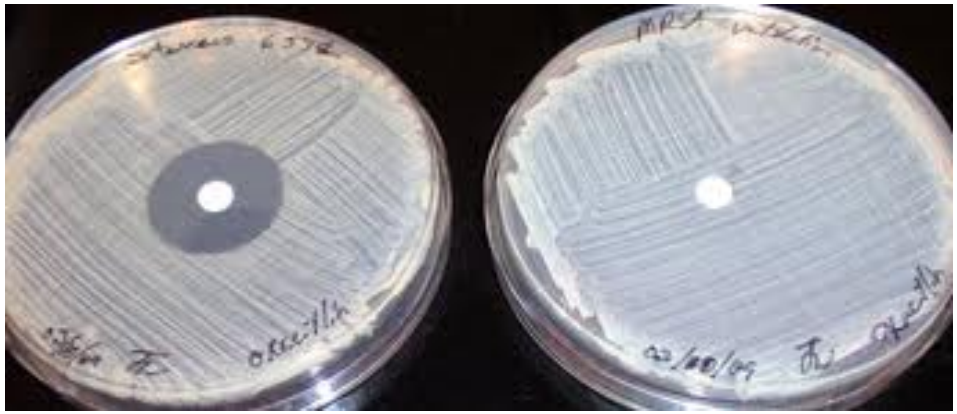
II. Exp. 14: Evaluation of Antibiotics

III. Exp. 17: Skin Flora-*Staphylococcus*

IV. Exp. 18: Throat Flora

I. Exp. 13: Antimicrobial Agents

- Fill in Table 7 with Ring Sizes (0 to a 5)



- Which disinfectant worked the best?
- Which disinfectant worked the least?

Overview

I. Exp. 13: Evaluation Antimicrobial Agents

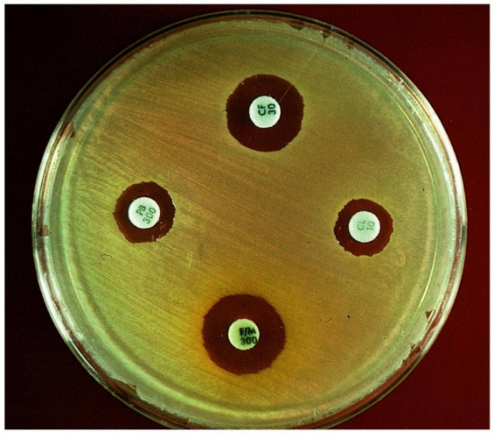
II. Exp. 14: Evaluation of Antibiotics

III. Exp. 17: Skin Flora-*Staphylococcus*

IV. Exp. 18: Throat Flora

II. Exp. 14: Antibiotics

- Fill in Table 8 with Ring sizes (0 to 5)



- Which is a broad spectrum antibiotic?
- Which is a narrow spectrum antibiotic?

Overview

I. Exp. 13: Evaluation Antimicrobial Agents

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III. Exp. 17: Skin Flora-*Staphylococcus*

IV. Exp. 18: Throat Flora

III. Exp. 17: *Skin Flora*

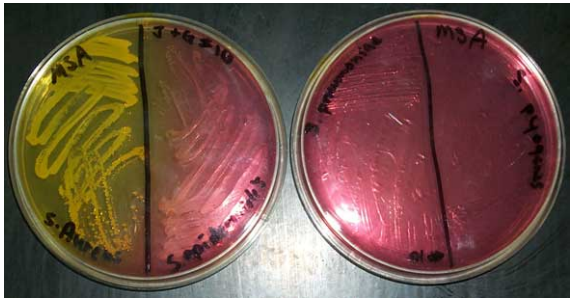
3 Types of Culture Media Used

1. **Enrichment Media** : Nutrient Agar (NA)
2. **Selective Media**–selecting for halophiles
   **Both *S. aureus* & *epidermidis* will grow

- Staph 110
- Mannitol Salt Agar (MSA)

III. Exp. 17: Skin Flora

3 Types of Culture Media Used



3. **Differential Media**
   - Mannitol Salt Agar (MSA)
     - *S. aureus:* plate yellow

       Why? Ferments mannitol,

       pH drops, phenol red turns yellow.
     - *S. epidermidis:* plate stays pink because it doesn't ferment mannitol

Overview

I. Exp. 13: Evaluation Antimicrobial Agents

II. Exp. 14: Evaluation of Antibiotics

III. Exp. 17: Skin Flora-*Staphylococcus*

IV. Exp. 18: Throat Flora

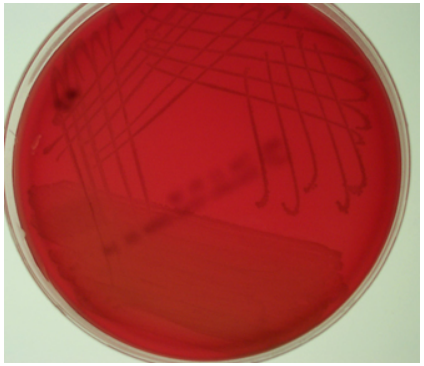
IV. Exp. 18: Throat Flora

- **Purpose:** To isolate & examine microbes obtained from the throat & to observe the three different types of hemolytic reactions.

- **Differential Culture Media**
  - Blood Agar Plates (BAP): 3 different types of hemolysis

IV. Exp. 18: Throat Flora

Blood Agar Plates: 3 Types of Hemolytic Reactions

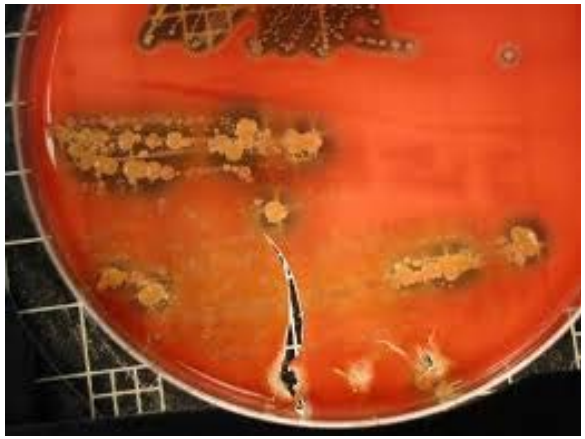


1. **Gamma Hemolysis:** ϒ
   - No breakdown of rbc around the colony
   - Rbc's intact

2. **Alpha Hemolysis:** α
   - Partial breakdown of rbc around the colony
   - Rbc's are yellowish, greenish, brownish

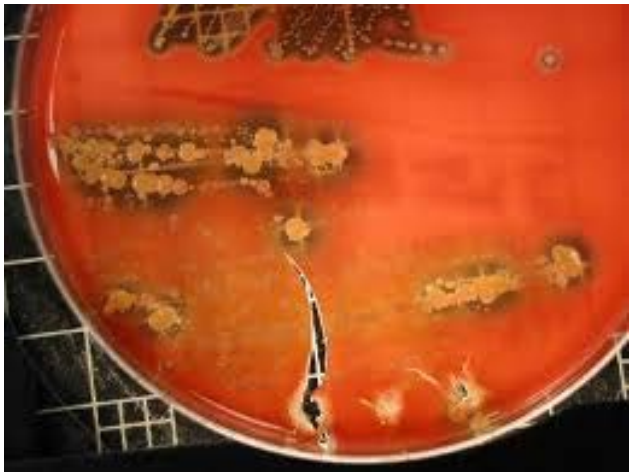
IV. Exp. 18: Throat Flora

3. **Beta Hemolysis: β**
   - Complete breakdown of rbc around the colony
   - Rbc's are broken down and clear
   - Indicates a "**higher degree of pathogenicity**"



IV. Exp. 18: Throat Flora

- Strep. Throat
  - Beta-hemolytic *Streptococcus pyogenes*



III. Exp 17

- **Save either a Staph 110 plate or MSA plate that shows medium sized beige colonies**
  - Assume the colony is *Staphylococcus*
  - Do the following:

    1. **Gram Stain:** Gram pos. cocci in clusters
       - Heat fix & Gram Stain per lab manual

    2. **Catalase Test** (Refer to Exp. 15 in the Lab Manual)

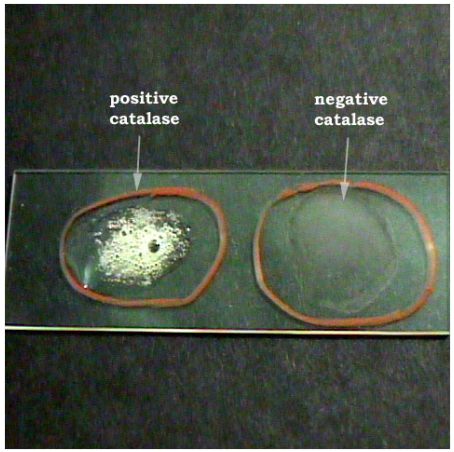
III. Exp 17

- **Catalase Test:**

  - **Procedure:**
    1. Using aseptic technique add a small amt. of the colony to the center of a slide
    2. **Do NOT add water or heat fix**
    3. Add 1-2 drops of hydrogen peroxide
    4. Look immediately for bubbling or fizzing as a result of the O_2 gas being given off

III. Exp 17

- **Catalase Test:**
  - ***Staphylococcus:*** Catalase positive-bubbles
  - ***Streptococcus:*** Catalase negative-no bubbles



BIO 201 Lab 9
Experiments 19 & 20

Professor Diane Hilker

Overview

I. Exp. 19: Water Analysis for Fecal Contamination

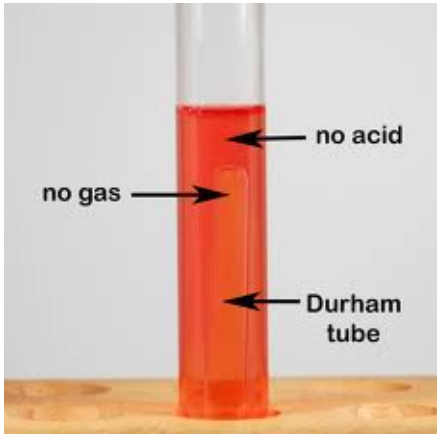
II. Exp. 20: Quantitative Analysis of H_2O

I. Exp. 19: Water Analysis for Feces

- **Purpose:** To learn & perform the 3 stage standard H_2O analysis test for fecal contamination

  - **PRLB Tube:** Phenol Red Lactose Broth with a Durham Tube (collects gas)

  - Follow Instructor's directions.



II. Exp. 20: Quantitative Analysis of Water

- **Purpose:** To test the hypothesis that potable H_2O may still contain bacteria and be safe to drink. To compare the number of bacteria in tap vs. well H_2O.

- Tap Water vs. Well Water

- Follow Instructor's Directions