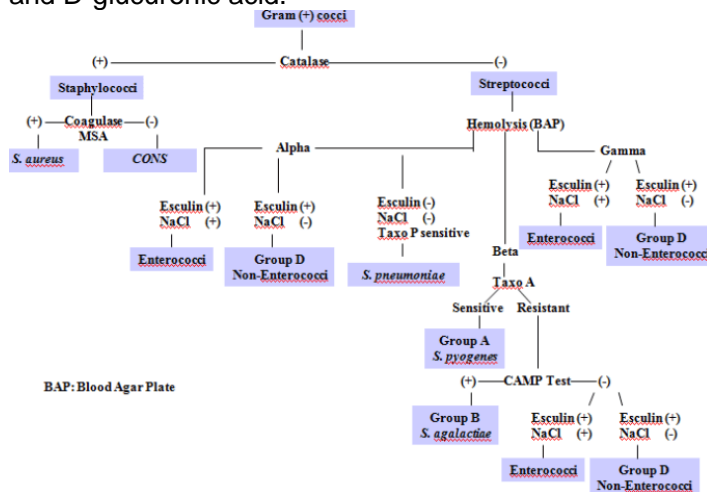


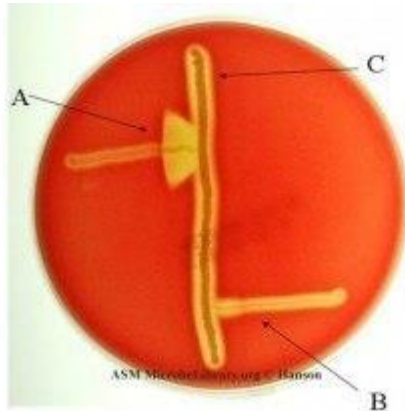
1. **Beta-glucuronidase test (MUG Test)** : To identify *Escherichia coli*. *Escherichia coli* produces the enzyme β -D-glucuronidase, which hydrolyzes β -D-glucopyranosid-uronic derivatives to aglycons and D-glucuronic acid.



Overview of Biochemical tests for

differentiating Gram positive cocci

2. **Bacitracin Sensitivity Test**: Bacitracin sensitivity test differentiates *Streptococcus pyogenes* (positive) from other beta hemolytic streptococci (resistant).
3. **Bile solubility test** : To differentiate *Streptococcus pneumoniae* from other alpha hemolytic streptococci. Bile or a solution of a bile salt, such as sodium desoxycholate rapidly lyses pneumococcal colonies.



CAMP test :

- A. *Streptococcus agalactiae* (positive)
 B. *Streptococcus pyogenes* (Negative)
 Image Source: ASM

4. **CAMP Test**: Certain organisms such as *Streptococcus agalactiae* (Group B streptococci), produce a diffusible extracellular protein (CAMP) factor that acts synergistically with the beta-lysin of *Staphylococcus aureus* and causes enhanced lysis of RBCs.

5. **Catalase test:** To differentiate Staphylococci (catalase positive) from Streptococci (catalase test negative)
6. **Citrate utilization test:** To differentiate members of **Enterobacteriaceae family**.
7. **Coagulase test:** Coagulase test is used to identify *Staphylococcus aureus*. Coagulase test differentiates *Staphylococcus aureus* (positive) from coagulase negative staphylococci (CONS), such as *S. epidermidis*, *S. saprophyticus*.
8. **DNase test:** This test is used to determine the ability of an organism to hydrolyze DNA. It is primarily used to identify *Staphylococcus aureus*
9. **Indole test:** This test is used to determine the ability of an organism to split tryptophan to form the compound indole. It is used to differentiate gram negative rods particularly *E. coli* in microbiology laboratory.
10. **Litmus milk decolorization test:** To help identify Enterococcus and some Clostridia which have ability to metabolize litmus milk.

2. Gridley **staining method** is used to **identify fungi**, based on Bauer chromic acid leucofuchsin **stain** with the addition of Gomori's aldehyde fuchsin **stain** and metanil yellow as counterstains. Against a yellow background, hyphae, conidia, yeast capsules, elastin, and mucin appear in different shades of blue to purple