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MacConkey agar media is a selective agar media that inhibits G+ organisms because it contains bile salts and crystal violet and allows only G- bacteria to grow, it also differentiates the G- bacteria by lactose fermentation

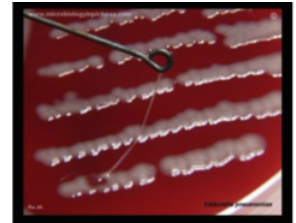
- Lactose fermenters appear as **pink** colonies, non-fermenters appear **colorless**
- Now let's mention some bacteria :
- 1) **Escherichia coli ( E-coli )** :
  - E. coli is **G- bacteria**, strong lactose fermenter.
  - it appears on **MacConkey agar media** as **dark pink** colonies.



Notice the empty zone in figure 2 → no E-coli

2) **Klebsiella pneumonia** :

- It ferments lactose and produces **pink** colonies on **MacConkey agar media**.
- Encapsulated strains of klebsiellas species are also mucoid in appearance because of the protective bacterial polysaccharide capsule surrounding the bacteria , which is a characteristic of the strains of this genus



Large mucoid polysaccharide capsule

### 3) **Enterobacter** :

- Form large colonies that are **pink** to **purple** because of their lactose fermentation.



### 4) **Citrobacter** :

- It ferments lactose and produces **pink** colonies on **MacConkey agar media**.



### 5) **Proteus** :

- Gram negative rods , non lactose fermenter
- Many species are highly motile with numerous flagella , so it grows on **blood agar plate** in successive **waves** to form a thin filmy layer of circles known as **swarming phenomena** as you see in the slide .
- Proteus **do not** swarm if cultured on MacConkey or cled agar media.



Swarming motility ( flagellated )



# B-Pseudomonas aeruginosa

## identified by :

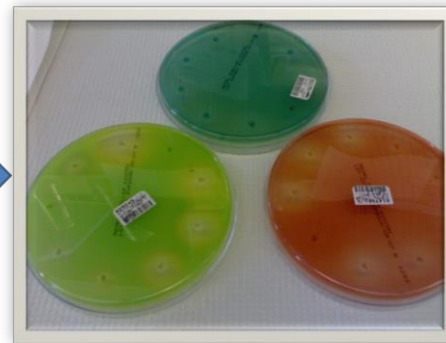


- Gram negative rod-shape bacteria.
- grape-like odor in vitro.
- They are oxidase positive, meaning that this bacteria produces the oxidase enzyme.
- It can produce different pigments colors when cultured on Mueller-Hinton agar media.

The pigments produced are:

- **Pyocyanine (blue-green)**
- **Pyoverdinin (fluorescent yellow –greenish pigment).**
- **Pyorubrin (red).**
- **Pyomelanin (brown).**

**Pseudomonas aeruginosa  
on mueller-Hinton agar**



*Pseudomonas  
aeruginosa*



**Thank you  
Any Question ??**