## **Selective/Differential Agars**

### **General enterics & stool pathogens**

* **MacConkey agar** – Gram-negatives; lactose fermentation.
* **XLD (Xylose Lysine Deoxycholate)** – *Salmonella* (red with black centres), *Shigella* (red).
* **DCA (Deoxycholate Citrate Agar)** – *Salmonella* / *Shigella*.
* **SS agar (Salmonella–Shigella)** – less commonly used now, but exam favourite.
* **HE (Hektoen Enteric agar)** – *Salmonella* (green with black), *Shigella* (green).
* **CLED (Cystine Lactose Electrolyte Deficient)** – urinary pathogens, prevents Proteus swarming.
* **Selenite F broth / Rappaport–Vassiliadis enrichment broth** – for *Salmonella* enrichment.
* **CIN (Cefsulodin–Irgasan–Novobiocin agar)** – selective for *Yersinia enterocolitica* (“bull’s eye” colonies).
* **TCBS (Thiosulfate Citrate Bile Salts Sucrose agar)** – *Vibrio* spp. (*V. cholerae* = yellow, *V. parahaemolyticus* = green).
* **Campylobacter selective agars** (Skirrow’s, Butzler’s, Preston, CCDA) – antibiotics + microaerophilic conditions.

### **Gram-positives**

* **Mannitol Salt Agar (MSA)** – *Staphylococcus aureus* (mannitol fermentation, yellow).
* **CNA agar (Colistin–Nalidixic Acid agar)** – Gram-positives only.
* **Bile Esculin Agar (BEA)** – *Enterococcus* (hydrolyses esculin → black).
* **Slanetz–Bartley agar** – Enterococci (selective isolation medium, exam favourite).

### **Respiratory pathogens**

* **Chocolate agar + bacitracin** – *Haemophilus influenzae*.
* **Thayer–Martin / Modified New York / VCNT agar** – *Neisseria gonorrhoeae* / *N. meningitidis*.
* **BCYE (Buffered Charcoal Yeast Extract) with antibiotics** – *Legionella pneumophila*.

### **Anaerobes**

* **KVLB (Kanamycin–Vancomycin Laked Blood agar)** – for *Bacteroides*.
* **BBE (Bacteroides Bile Esculin agar)** – selective/differential for *B. fragilis* group.
* **CCFA (Cycloserine–Cefoxitin–Fructose Agar)** – *Clostridioides difficile* (horse manure smell, yellow colonies).

### **Mycobacteria**

* **Löwenstein–Jensen (LJ medium)** – egg-based.
* **Middlebrook 7H10 / 7H11** – agar-based, clear.

### **Yeasts & Fungi**

* **Sabouraud Dextrose Agar (SDA)** – fungi, often with antibiotics.
* **CHROMagar Candida** – differentiates *Candida* spp. by colony colour.
* **Dermatophyte Test Medium (DTM)** – dermatophytes (colour change).

### **Other important / exam-favourite selective media**

* **Ashdown’s agar** – *Burkholderia pseudomallei*.
* **Cetrimide agar** – *Pseudomonas aeruginosa*.
* **Regan–Lowe charcoal agar** – *Bordetella pertussis*.
* **Tellurite agar / Loeffler’s medium** – *Corynebacterium diphtheriae*.
* **BCSA (Burkholderia cepacia selective agar)** – for cystic fibrosis specimens.
* **PALCAM / Oxford agar** – *Listeria monocytogenes*.
* **CHROMagar MRSA** – selective for MRSA from screening swabs.
* **Modified charcoal–cephalexin agar** – *Legionella* (alternative to BCYE).
* **Hoyle’s agar** – *Corynebacterium diphtheriae* (black colonies).