

## CM 21577 - SCHAEDLER AGAR

### INTENDED USE

Forenumeration of various aerobic and anaerobic bacterial species in gastrointestinal tract.

### PRODUCT SUMMARY AND EXPLANATION

Schaedler Agar was originally formulated by Schaedler et al and further modified by Mata et al with formulation changes for cultivation and enumeration of aerobic and anaerobic microorganisms. Schaedler Agar supplemented with Vitamin K1 and 5% sheep blood is used for the recovery of fastidious anaerobic bacteria such as Bacteroides. Inclusion of Colistin and Nalidixic acid in the formulation (Schaedler CNA Agar) along with 5% sheep blood is used for the selective isolation of the anaerobic gram-positive cocci, Peptococcus and Peptostreptococcus species. Inclusion of Kanamycin and Vancomycin in the formulation (Schaedler KV Agar) along with 5% sheep blood is used for selective isolation of gram-negative anaerobes. Schaedler Agar serve as an excellent basal media to which blood or other enrichments can be added to enhance the recovery of fastidious anaerobic organisms.

### COMPOSITION

| Ingredients                       | Gms / Ltr |
|-----------------------------------|-----------|
| Tryptone                          | 5.670     |
| Proteose peptone                  | 5.000     |
| Soya peptone                      | 1.000     |
| Yeast extract                     | 5.000     |
| Dextrose (Glucose)                | 5.830     |
| Sodium chloride                   | 1.670     |
| Dipotassium hydrogen phosphate    | 0.830     |
| Tris (hydroxymethyl) aminomethane | 3.000     |
| L-Cystine                         | 0.400     |
| Hemin                             | 0.010     |
| Agar                              | 15.000    |

### PRINCIPLE

The medium consists of Tryptone, Proteose peptone and Soya peptone, Yeast extract and L-cystine which provide nitrogenous growth factors, vitamins and other essential growth nutrients. Dextrose serves as energy source. Hemin and sheep blood stimulates the growth of fastidious microorganisms and stimulates growth of other Bacteroides species and gram-positive spore formers. Addition of Sodium Polyanethol Sulphonate (SPS) is recommended when using this medium for blood culture. It inhibits phagocytosis and neutralizes the antibacterial activity of fresh blood components. Vitamin K1 enables the cultivation of Bacteroides melaninogenicus and stimulates growth of other Bacteroides species and gram-positive spore formers.

### INSTRUCTION FOR USE

- Dissolve 43.41 grams in 950 ml purified/distilled water.
- Heat to boiling with frequent agitation to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and add 5% sterile defibrinated blood if desired.



Mix well before dispensing. Avoid overheating and photo-oxidation of the medium, as it will retard the growth of bacteria.

If desired, add rehydrated contents of 1 vial each of Vitamin K1 Supplement and CNA Supplement to prepare Schaedler CNA Agar or to prepare Schaedler KV Agar, aseptically add rehydrated contents of 1 vial each of Vitamin K1 Supplement and KV Supplement respectively to 1000 ml of Schaedler Agar.

#### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.  
 Appearance of prepared medium : Light amber coloured clear to slightly opalescent gel forms in Petri plates.  
 pH (at 25°C) : 6.3±0.2

#### INTERPRETATION

Cultural characteristics observe after incubation.

| Microorganism           | ATCC  | Inoculum (CFU/ml) | Growth    | Recovery | Incubation Temperature | Incubation Period |
|-------------------------|-------|-------------------|-----------|----------|------------------------|-------------------|
| Bacteroides fragilis    | 25285 | 50-100            | Luxuriant | ≥70%     | 35-37°C                | 18-48 Hours       |
| Clostridium sporogenes  | 13732 | 50-100            | Luxuriant | ≥70%     | 35-37°C                | 18-48 Hours       |
| Clostridium perfringens | 12924 | 50-100            | Luxuriant | ≥70%     | 35-37°C                | 18-48 Hours       |
| Clostridium sporogenes  | 11437 | 50-100            | Luxuriant | ≥70%     | 35-37°C                | 18-48 Hours       |
| Escherichia coli        | 25922 | 50-100            | Inhibited | 0%       | 35-37°C                | 18-48 Hours       |
| Streptococcus pyogenes  | 19615 | 50-100            | Luxuriant | ≥70%     | 35-37°C                | 18-48 Hours       |

#### PACKAGING:

In pack size of 500 gm bottles.

#### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for



the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

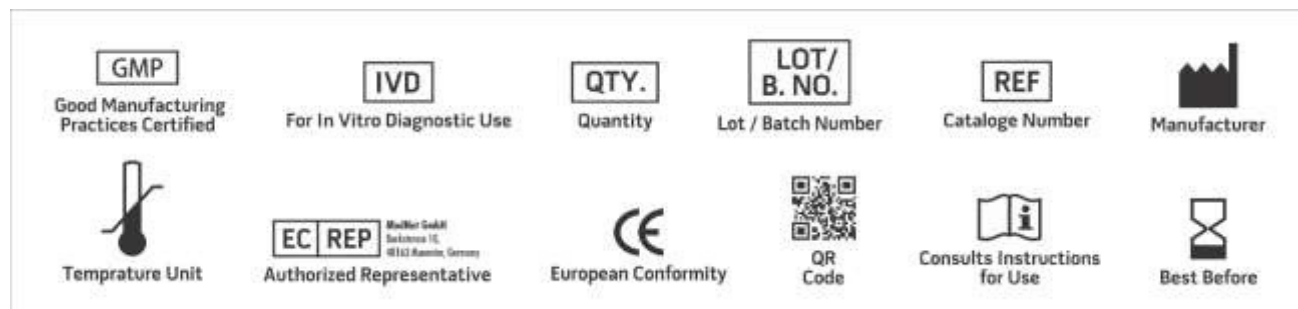
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

#### DISPOSAL

Afteruse, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### REFERENCES

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5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
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7. Lowrence and Traub, 1969, Appl. Microbiol., 17:839.
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10. Rosner, 1968, Am. J. Clin. Pathol., 49:216.
11. Schaedler R.W., Dubos R. and Castello R., 1965, J. Exp. Med., 122:59.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

\*For LabUse Only