

## Schaedler HiVeg™ Agar

MV291

### Intended Use:

Recommended for enumeration of various aerobic and anaerobic bacterial species present in gastrointestinal tract. For Schaedler CNA Agar : add Vitamin K1 Supplement (FD114) and CNA Supplement (FD115) for Schaedler KV Agar : add Vitamin K1 Supplement (FD114) and KV Supplement (FD116) respectively to 1000 ml of Schaedler Agar (M291).

### Composition\*\*

Ingredients	Gms / Litre
HiVeg™ hydrolysate	5.670
HiVeg™ peptone No. 3	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
Final pH ( at 25°C)	7.6±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 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 lbs 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 photooxidation of the medium, as it will retard the growth of bacteria.

If desired, add rehydrated contents of 1 vial each of Vitamin K1 Supplement (FD114) and CNA Supplement (FD115) to prepare Schaedler CNA Agar or to prepare Schaedler KV Agar, aseptically add rehydrated contents of 1 vial each of Vitamin K1 Supplement (FD114) and KV Supplement (FD116) respectively to 1000 ml of Schaedler Agar.

### Principle And Interpretation

Schaedler Agar was originally formulated by Schaedler et al (11) and further modified by Mata et al (9) with formulation changes (8) for cultivation and enumeration of aerobic and anaerobic microorganisms. Schaedler HiVeg™ Agar is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks.

Schaedler HiVeg™ 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 (1), *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 HiVeg™ Agar serve as an excellent basal media to which blood or other enrichments can be added to enhance the recovery of fastidious anaerobic organisms.

The combination of HiVeg™ hydrolysate, HiVeg™ peptone No. 3 and Soya peptone, Yeast extract and L-cystine 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 (2). Addition of Sodium Polyanethol Sulphonate (SPS) is recommended when using this medium for blood culture (10). It inhibits phagocytosis and neutralizes the antibacterial activity of fresh blood components (3,7). Vitamin K1 enables the cultivation of *Bacteroides melaninogenicus* (4) and stimulates growth of other *Bacteroides* species and gram-positive spore formers (2).

### Type of specimen

Clinical samples - Genital specimen, Upper respiratory swab, Endotracheal Aspiration swab

## Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6). After use, contaminated materials must be sterilized by autoclaving before discarding.

## Warning and Precautions :

In Vitro diagnostic Use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations :

1. Hemin and sheep blood stimulates the growth of fastidious microorganisms and stimulates growth of other *Bacteroides* species and gram-positive spore formers.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Appearance

Cream to yellow homogeneous free flowing powder

### Gelling

Firm, comparable with 1.5% Agar gel

### Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates

### Reaction

Reaction of 4.34% w/v aqueous solution at 25°C. pH : 7.6±0.2

### pH

7.40-7.80

### Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours under anaerobic condition.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacteroides fragilis</i> ATCC 25285	50-100	luxuriant	≥50%
<i>Clostridium butyricum</i> ATCC 13732	50-100	luxuriant	≥50%
<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant	≥50%
<i>Clostridium sporogenes</i> ATCC 11437	50-100	luxuriant	≥50%
<i>Escherichia coli</i> ATCC 25922 (00013*)	≥10 <sup>4</sup>	inhibited	0%
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant	≥50%

Key : \*Corresponding WDCM numbers.

## Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

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## Reference

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### Disclaimer :

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