# Schaedler Broth

M292

## Intended Use:

Recommended for cultivation of wide variety of microorganisms particularly from anaerobic blood cultures.

## Composition**

| Ingredients | g / L |
|---|---|
| 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 |
| Final pH ( at 25°C) | 7.6±0.2 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Suspend 28.41 grams in 1000 ml purified/distilled water. If desired 0.02-0.2% Agar can be added. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 5% sterile defibrinated blood if desired. Mix well and dispense into tubes or flasks as desired. Avoid overheating and photooxidation of the medium, as it will retard the growth of bacteria.

## Principle And Interpretation

Schaedler Broth was originally formulated by Schaedler et al (1) and modified by Mata et al (2) with composition changes (3). It serves as an excellent basal medium to which blood or other enrichments can be added to enhance the recovery of fastidious anaerobic organisms. Stalons et al (4) found this medium to be most effective medium for the growth of obligately anaerobic bacteria in an atmosphere of 5% carbon dioxide, 10% hydrogen and 85% Nitrogen. It can also be used to determine antibiotics MIC levels of anaerobic organisms (4). Fass et al used (5) tube method for antibiotic MIC determination. Schaedler broth is highly nutritious medium due to tryptone, proteose peptone, soya peptone and yeast extract. Sodium Polyanethole Sulphonate (SPS) which is an anticoagulant in culture bottles promotes optimal recovery of organisms from blood (6). It acts to inhibit phagocytosis and to neutralize the antibacterial activity of fresh blood components (7,8).

## Type of specimen

Clinical samples - Faeces, Pus etc.

## Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (9,10).
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. Due to nutritional variations, certain strains may show slow growth.

## 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

**Colour and Clarity of prepared medium**

Light amber coloured clear to slightly opalescent solution in tubes

**Reaction**

Reaction of 2.84% 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 |
|---|---|---|
| *Bacteroides fragilis* ATCC 25285 | 50-100 | luxuriant |
| *Clostridium butyricum* ATCC 13732 | 50-100 | luxuriant |
| *Clostridium perfringens* ATCC 12924 | 50-100 | luxuriant |
| *Clostridium sporogenes* ATCC 11437 | 50-100 | luxuriant |
| *Escherichia coli* ATCC 25922 (00013*) | >=$10^4$ | inhibited |
| *Streptococcus pyogenes* ATCC 19615 | 50-100 | luxuriant |

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 (9,10).

## References

1.Schaedler R.W., Dubos R. and Castello R., 1965, J. Exp. Med., 122:59.
2.Mata L.J., Carrillo C. and Villatoro E., 1969, Appl. Microbiol, 17:596.
3.MacFaddin J., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. I. Williams and Wilkins, Baltimore.
4.Stalons D.R., Thornsberry C. and Dowel V.R., 1974, Appl. Microbiol, 27:1098.
5.Fass R.J., Prior R.B. and Rotilie C.A., 1975, Antimicrob. Agents Chemother., 8:444.
6.Rosner, 1968, Am. J. Clin. Pathol. 49:216.
7.Garrod, 1966, J. Pathol. Bacterial., 91:621.
8.Lowrence and Traub, 1969, Appl. Microbiol, 17:839.
9.Isenberg (Ed.), 1992, Clinical Microbiology Procedures Handbook, American Society for Microbiology, Washington, D.C.
10.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology,11th Edition. Vol. 1.

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IVD ***In vitro*** **diagnostic medical device**

30°C
10°C **Storage temperature**

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**Do not use if package is damaged**

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