Schaedler Broth

Cat. 1218

For the cultivation of anaerobes present in clinical samples and food

Practical information

Aplications	Categories
Enrichment	Fastidious microorganisms
Enrichment	Anaerobes

Industry: Clinical / Food

Principles and uses

Schaedler Broth is a liquid medium rich in nutrients, like Schaedler Agar but lacking the agar. A large number of pathogenic anaerobic organisms involved in diverse human and animal diseases grow abundantly in this medium.

Schaedler Broth is excellent for the primary isolation of anaerobes, for blood cultures and other clinical materials. It is useful for the determination of the minimum inhibitory concentration (MIC) of antimicrobials used in sensitivity tests. The solid medium is not used to perform sensitivity tests because there is no effective agreement between the concentration of the drug and the diameters of the zones of inhibition that are observed when the solid medium is used.

TSB Broth, Casein Peptone, Meat Peptone, provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast Extract is source of vitamins, particularly the B-group. Dextrose is the fermentable carbohydrate providing carbon and energy. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Tris (hydroxymethyl Aminomethane) is used to buffer the medium. Hemin stimulates organism growth. L-Cystine is a reducing agent.

The addition of sodium polyanethol-sulphonate (SPS) and carbon dioxide to Schaedler Broth enables it to be used as a blood culture medium and for the cultivation of especially fastidious Bacteroides species.

Formula in g/L

Casein peptone	2,5	Dextrose	5
Hemin	0,01	L-Cystine	0,4
Meat peptone	2,5	Yeast extract	5
Trypticasein Soy Broth	10	Tris (Hydroxymethyl Aminomethane)	3

Typical formula g/L * Adjusted and/or supplemented as required to meet performance criteria.

Preparation

Suspend 28,4 grams of the medium in one liter of distilled water .Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes.

Instructions for use

* Determination of the MIC (Fass and col.):
- Place a glass bead of 6 mm in diameter at the bottom of the test tube before sterilizing.
- Observe the bacterial growth after 18–24 hours of incubation at 35±2 °C.

* Cultivation of anaerobic cocci:

- It is recommended to add 1 ml of inactivated horse serum for every 100 ml of broth.
- Inoculate the specimen into the tube and incubate in anaerobic conditions for 18-24 hours for up to 7 days.
- Growth in the tubes is indicated by the presence of turbidity.

Note: In order to know if the Schaedler Broth that has been stored has deteriorated or oxidized, add 0.01 grams of resazurin for each 100 ml of the medium.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
May present slight precipitate	Fine powder	Clear toasted	Clear amber	7,6±0,2

Microbiological test

Incubation conditions: (35±2 ºC, anaerobic atmosphere / 18-24 h)

Microorganisms	Specification
Clostridium perfringens ATCC 13124	Good growth
Clostridium butyricum ATCC 19398	Good growth
Streptococcus pyogenes ATCC 19615	Good growth
Bacteroides fragilis ATCC 25285	Good growth

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

Fass R.J. Prior R.B. and Rotille C. A. 1975
Antimicrobial Agents Chemother. 8, 444-452.
Rotille C.A. and Col. 1075 Antimicrob. Agents Chemother. 7. 311-315.
Isenberg HD. (ed) 1992. Clinical microbiology procedures handbook. American Society for Microbiology, Washington, DC. Atlas RM. 1993 Handbook of microbiological media, p. 794-795 CRC Press, Boca Raton, FL..