Specification

Liquid medium with high reducing and nutrient capacity for the cultivation of fastidious anaerobic micro organisms.

Formula * in g/L

Casein peptone	5,60
Soy peptone	1,00
Meat peptone	5,00
Yeast Extract	5,00
Glucose	5,80
Sodium chloride	1,70
Dipotassium phosphate	0,80
Tris buffer	3,00
L- Cysteine HCl	0,40
Hemin	0,01

Final pH 7,6 ±0,2 at 25 ºC

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Dissolve 28.31 g of powder in 1 L of distilled water, heating up if necessary. Distribute into suitable containers and sterilize by autoclaving at 121°C for 15 minutes.

Description

These media Schaedler Agar and Broth, were developed to create the selective conditions to allow the growth of fastidious anaerobic microrganisms from a mixed flora, like gastrointestinal tract, where there are many antagonistic activities between fast growing facultatives and the delicate fastidious anaerobic organisms. For this aspect, the media with thioglycolate are widely used, but this compound seems to inhibit some delicate anaerobic organisms. On the other hand, Schaedler media have L-Cystine as a reducing agent, thus some gramnegative do not grow.
Peptones and Yeast Extract provide vitamins, nitrogen, and amino acids in Schaedler Broth. Dextrose is a carbon source. Sodium Chloride maintains the osmotic balance of the medium. Tris (hydroxymethyl) Aminomethane and Dipotassium Phosphate are used to buffer the medium. Hemin stimulates organism growth. L- Cystine is a reducing agent.
Effective separation or isolation in several biotypes is achieved with the addition of selective agents to the nutrient base. For example, this medium can be rendered selective for lactic bacteria by adding 10 g/L of sodium chloride and 0,002 g/L of neomycin. For the selection of *Clostridium* and *Bacteroides*, it is more advisable to add 2 g/L of placenta powder and 0,002 g/L of neomycin. Should a selective medium for *Flavobacterium* be desired, add 7 mL of alcoholic solution of tyrothricin 0,5% to 1 L of medium base. In any case, incubation must be carried out at 37±1°C and in an anaerobic atmosphere.

Technique

Proceed according to specifications or methodology of the laboratory.

Quality control

Incubation temperature: 37 °C ±1,0 **Incubation time:** 44 ± 4h

Inoculum: Practical range 100 ± 20 CFU. Min. 50 CFU (Productivity) according to ISO 11133:2014/Amd 1:2018. Anaerobic conditions.

Microorganism	Growth	Remarks
Staphylococcus aureus ATCC® 25923	Good	Aerobiosis
Clostridium perfringens ATCC® 13124	Good	-
Clostridium perfringens ATCC® 10543	Good	-
Bacteroides fragilis ATTC 25285	Good	-
Streptococcus pyogenes ATCC® 19615	Good	-

References

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· ISENBERG H.D. (1992) Clinical Microbiology Proce- dures Handbook. ASM. Washington DC.
· MARSHALL, R.T. (1992) Standard Methods for the ex- amination of Dairy Products. APHA. Washington
· MacFADDIN, J.F. (1985) Media for Isolation-Cultiva- tion- Identification and Maintenance of Medical bacteria. William & Wilkins. Baltimore, MD, USA.
· WILKINS, T.D. and S. CHALGREN (1976) Medium for use in the susceptibility testing of anaerobic bacteria. Antimicrob. Agents. Chemother 10:926:928.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 ºC to 30 ºC).