Reference : 01-231

Product :
SCHAEDLER AGAR

***Scharlau Microbiology* - Technical data sheet**

Specification

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

Formula * in g/L

Casein peptone	5,60	Tris buffer	3,00
Soy peptone	1,00	L- Cysteine HCl	0,40
Meat peptone	5,00	Hemin	0,01
Yeast extract	5,00	Agar	13,5
D(+) Glucose	5,80		
Sodium chloride	1,70	Final pH 7,6 ±0,2 at 25 ºC	
Dipotassium phosphate	0,80		

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

Directions

Suspend 41,9 g of powder in 1 L of distilled water and heat to boiling. Dispense into suitable containers and sterilize in the autoclave 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. 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

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. The addition of 5% blood improves the growth of strict anaerobic pathogens. 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.

Note: If bloodless medium is used, it must be inoculated in double layer or tube. *Staphylococcus spp* may be partially inhibited.

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	w. 5% blood (aerobiosi)
Clostridium perfringens ATCC® 13124	Good	w. 5% blood
Clostridium perfringens ATCC® 10543	Good	w. 5% blood
Bacteroides fragilis ATTC 25285	Good	w. 5% blood
Streptococcus pyogenes ATCC® 19615	Good	w. 5% blood

References

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· STALONS, D.R., C.THORNSBERRY and V.R. DOWELL (1974) Effect of culture medium and CO2 concentration of growth of anaerobic bacteria commonly encountered in clinical specimens. Appl. Microbiol 27:1098-1104.
· 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).