Technical Information

Anaerobic Tryptone Soya Agar

Product Code: DM 1975

Application: - Anaerobic Tryptone Soya Agar is used for screening anaerobes in cosmetics such as Talcum powder.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	15.000
Papaic digest of soyabean meal	5.000
Sodium chloride	5.000
Yeast extract	5.000
Hemin	0.005
Vitamin K1	0.010
L-Cystine	0.400
Agar	20.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Anaerobic microorganisms have long been known as constituents of the normal bacterial flora of human and animal organisms. Both their pathogenic significance in medicine and their important role in food hygiene have, however, long been underestimated. During the past few years the importance of anaerobic microorganisms as pathogenic agents responsible for infectious diseases and the role they play in the microbial spoilage of food, cosmetics and water has been better appreciated. Extremely different spectra of anaerobic organisms are of importance for the examination of food, cosmetics and in the clinical microbiology (1). The present medium is a slight modification of Anaerobic Blood Agar formulated by Dowell et al which is a non-selective medium for the isolation and cultivation of a wide variety of obligately anaerobic microorganisms (2, 3). Tryptone Soya Agar supplemented with additional agar, yeast extract, vitamin K1, hemin and cystine improves the growth of anaerobic organisms.

In the medium Casein enzymic hydrolysate, yeast extract and papaic digest of soyabean meal supply carbon, nitrogenous compounds, and the vitamins and growth factors provides enrichment for growth of anaerobes. Sodium chloride helps in maintaining the osmotic equilibrium. Hemin, vitamin K1, cystine provide growth factors.

Streak the specimen as soon as it is received in the laboratory. Minimize the exposure to air. Inoculate and incubate the plates under anaerobic conditions for minimum 48 hrs and up to 7 days. In order to determine the relationship to oxygen of each colony type present on Anaerobic Agar, inoculate and incubate the plates aerobically as well as anaerobically. Record the ability of organism to grow in presence of oxygen as either obligate anaerobe or non-anaerobe. Organisms failing to grow on the aerobic subculture plates may be presumed to be obligately anaerobic.

Methodology

Suspend 50.41 grams of dehydrated media in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool and pour into sterile Petri plates. It is recommended that the medium be reduced by keeping in anaerobic jar-incubator for 24 hours before use.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% agar gel.

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

Reaction
Reaction of 5.04% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH Range
7.30-7.70

Cultural Response
DM 1975: Cultural characteristics observed under anaerobic conditions after an incubation at 35-37°C for 48 hours.

Organism	Growth
Bacteroides fragilis ATCC 25285	luxuriant
Bacteroides melaninogenicus ATCC25611	luxuriant
Peptostreptococcus anaerobius ATCC 27337	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Ljungdahl L. G., Adams M. W., Barton L. L., Ferry J. G., Johnson M. K., Biochemistry and Physiology of Anaerobic Bacteria. Microbiology.Springer publication
2. Dowell, Lombard , Thompson and Armfield, 1977, CDC Laboratory manual, CDC, Atlanta
3. Dowell and Hawkins, 1979, CDC Laboratory manual, CDC, Atlanta

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