

Technical Information

M-Staphylococcus Broth

Product Code: DM 2120

Application: - M-Staphylococcus Broth is used for detection and isolation of Staphylococci by membrane filter technique.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Yeast extract	2.500
Lactose	2.000
Mannitol	10.000
Dipotassium hydrogen phosphate	5.000
Sodium chloride	75.000
Sodium azide	0.049
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The source of swimming pool water is generally potable one and treated with additional disinfectants. Some time it may also come from thermal springs or salt water. Modern pools have a recirculation system for filtration and disinfection of water present in the pool. Staphylococci are gram-positive cocci mainly present on the skin and mucous membrane of humans as commensal which can contaminate the swimming pool water.

M-Staphylococcus Broth is used for detection and isolation of Staphylococci from swimming pool water by membrane filter technique. This broth is especially used for isolating pathogenic and enterotoxigenic Staphylococci and has same composition as that of Staphylococcus Agar No. 110 except agar and gelatin ⁽¹⁾.

Casein enzymic hydrolysate and yeast extract supply essential growth factors such as nitrogen, carbon, sulphur, vitamins and trace ingredients. The 7.5% concentration of sodium chloride results in partial or complete inhibition of bacteria except Staphylococci. Mannitol and lactose are utilized as energy sources.

Inoculate the tubes of M-Staphylococcal Broth and incubate at 35 ± 2°C for 24 hours. Streak from positive tubes (turbid growth) on plates of Lipovitellin Salt Mannitol Agar Base (DM1627) and incubate at 35-37°C for 48 hours. Opaque, yellow zones around the colonies are positive evidence of lipovitellin- lipase activity and mannitol fermentation ⁽²⁾. Alternatively around 2 ml of M-Staphylococcus Broth is used to saturate sterile absorbent cotton pads. Membrane filters used for filtration are aseptically placed on these saturated cotton pads. Following an incubation at 35-37°C for 18-48 hours, observe membrane for growth and pigment production. Mannitol fermentation can be visualized as yellow colouration by addition of a few drops of bromothymol blue to the areas from where colonies have been removed.



Dehydrated Culture Media
Bases / Media Supplements

Methodology

Suspend 104.55 grams of powder media in 1000 ml distilled water. Shake well & Mix thoroughly and heat to boiling for 5 minutes. DO NOT AUTOCLAVE. For 10 ml inocula, use double strength medium.

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution without any precipitate

Reaction

Reaction of 10.45% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range

6.80-7.20

Cultural Response/Characteristics

DM2120: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
<i>Enterococcus faecalis</i> ATCC 29212	$\geq 10^3$	inhibited
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	Inhibited
<i>Staphylococcus aureus</i> ATCC 25923	50-100	good-luxuriant
<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	good-luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	$\geq 10^3$	inhibited

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8⁰ in sealable plastic bags for 2-5 days.

Further Reading

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Maintenance-of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
2. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Eds.), 1995, Standard Methods for the Examination of water and Wastewater, 19th Ed. American Public Health Association, Washington, D.C.





Dehydrated Culture Media
Bases / Media Supplements

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Donot use the products if it fails to meet specificatons for identity and performens parameters.

