

Mannitol Salt Agar Plate (Harmonized)

Intended Use

Mannitol Salt Agar Plate is used for the isolation and cultivation of Staphylococci in accordance with microbial limit testing by harmonized methodology of USP/EP/BP/JP/IP.

Summary

Koch reported that only Staphylococci grow on agar media containing 7.5% sodium chloride. Chapman studied this phenomenon in detail and concluded that the addition of 7.5% salt to phenol red mannitol agar results in an improved medium for the isolation of plasma coagulating Staphylococci.

Mannitol Salt Agar is recommended by harmonized methodology of USP/EP/BP/JP/IP for use in Microbial Limit tests. It is used for the detection and enumeration of coagulase positive Staphylococci in milk, food and other specimens. This medium is also included in the Bacteriological Analytical Manual for cosmetics testing.

Principle

Pancreatic Digest of Casein, Peptic Digest of Animal Tissue and beef extract supplies essential growth factors such as nitrogen, carbon, sulphur and trace nutrients. The 7.5% salt concentration results in partial or complete inhibition of bacteria other than staphylococci. Mannitol fermentation, results in change in the phenol red indicator, (from red to yellow) which helps in the differentiation of staphylococcal species.

Formula*

Ingredients	g/L
Pancreatic Digest of Casein	5.0
Peptic Digest of Animal Tissue	5.0
Beef Extract	1.0
D-Mannitol	10.0
Sodium Chloride	75.0
Phenol Red	0.025
Agar	15.0

*Adjusted to suit performance parameters.

Additional Material Required

Bacteriological Incubator.

Instructions for use

1. Open the sterile pack and remove Mannitol Salt Agar Plate aseptically.
2. Inoculate/streak and incubate in inverted position as per standard procedure.

Reading and interpretation

1. After incubation, observe the microbial growth and count the colonies.
2. Interpretation is assured by user.
3. User is responsible to define the action limits as per standard guidelines and alert limits on the basis of trend analysis & other relevant data.

Quality Control

Appearance: Gel with smooth and even surface, without any cracks, bubbles and drying or shrinking of media.

Colour of Medium: Pinkish Red to Red coloured medium.

Quantity of Medium: 27 ± 2 g in 90 mm petriplate.

pH at 25°C ± 2°C: 7.4 ± 0.2

Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/BP/JP/IP and growth is observed after an incubation at 30-35°C for 18-72 hours.

Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time, inoculating ≤100 cfu of appropriate microorganism.

Indicative Properties: The test results observed are within the specified temperature and time, inoculating ≤ 100 cfu of appropriate microorganism.

Inhibitory Properties: No growth of the test microorganism occurs for the specified temperature and not less than the longest period of the time specified, inoculating greater than 100 cfu of the appropriate microorganism.

Growth Promoting + Indicative

Organism (ATCC)	Growth	Colour of Colony	Incubation Temperature	Incubation Period
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538)	Good	Yellow colonies surrounded by yellow zone	30-35°C	18 Hours
Inhibitory <i>Escherichia coli</i> (8739)	Inhibited	-	30-35°C	72 Hours

Note: For inhibition no growth of test microorganism should occur.

Storage and Shelf Life

1. Store between 15°C-25°C to avoid water condensation. Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.
2. Under optimal conditions, the medium has a shelf life of 3 months. Use before expiry mentioned on the label.

Reference

1. Koch, F.E. 1942. Electivnahrboden fur Staphylokok ken. Zentr. Bakt. Parasitenk., I, Orig. 149:122-124.
2. Chapman, 1945. J. Bact; 50:201.
3. US Pharmacopeial Convention, Inc. 2001. The United States Pharmacopoeia 25/NF 20-2002. The US Pharmacopeial Convention, Inc; Rockville, Md.
4. IP, 1996, Ministry of Health and Family Welfare, Govt. of India, Vol. 2.
5. Directive 2000/54/EC of the European Parliament and of the Council of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC). Official Journal L262, 17/10/2000, p. 0021-0045.
6. US Food and Drug Adm; 1998, Bacteriological Analytical Manual, 8th Ed; Rev. A, AOAC, International, Gaithersburg, Md.
7. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product	Pack Size
205130930100	Mannitol Salt Agar Plate (Harmonized)	100 Plates

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
