TECHNICAL DATA SHEET

Article No. 9156

Mannitol Salt Agar (Chapman), prepared plates

SYNONYMS

MSA

SPECIFICATION

Selective medium for the isolation of pathogenic staphylococci, according to the Pharmacopoeial Harmonised Methodology.

Color: strong pink
pH: 7.4 ±0.2 at 25 ºC

COMPOSITION IN G/L

Meat extract	1.000
Casein peptone	5.000
Meat peptone	5.000
Sodium chloride	75.000
D-Mannitol	10.000
Phenol red	0.025
Agar	15.000

PACKAGING DETAILS

9156-20PLATES
20 prepared plates 90 mm
Content: 21 ±2 ml
Packaging unit: 1 box with 2 packs of 10 plates/pack. Single cellophane.

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Persönlich haftende Gesellschafterin:
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Amtsgericht Stuttgart / HRB-Nr. 252035
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GUIDELINES

Description:
Mannitol Salt Agar is a classical medium for the detection and enumeration of staphylococci. It was described by Chapman and has been adopted by many official organisations. Several modifications have been developed, all formulations resulting in media with similar efficiency.
This medium takes advantage of the high saline tolerance of staphylococci, and uses sodium chloride as a selective agent. Only staphylococci and halophilic enterobacteria are able to grow effectively at the concentration of salt employed in this medium, while other bacteria are inhibited.
It also exploits the correlation between the pathogenicity of staphylococci and their ability to ferment mannitol. Mannitol fermentation results in an accumulation of acid products, indicated by the phenol red indicator turning yellow. A yellow halo is surrounding the presumptive pathogenic colonies while the rest of the medium remains red/orange in color.

Technique:
Inoculate the plates and incubate at 37 °C for 36 hours or at 30-35 °C for 3 days.
The typical appearance of the colonies after correct incubation is as follows:
- Presumptive pathogenic staphylococci (coagulase +) are mannitol positive and produce large colonies with yellow halo.
- Non-pathogenic staphylococci (coagulase -) are usually mannitol negative and produce small colonies without halo or change in color.
Coagulase presence must be tested by classical technique in order to establish its true pathogenic potential.

Note: According to the methodology chosen by the laboratory (Pharmacopeia or other international standards), slight variations in incubation times and temperatures may be applied, as well as inhibition of *E. coli*, which can be variable depending on the inoculated bacterial population. This medium can normally reduce the bacterial load by up to 3 decimal logarithms.

MICROBIOLOGICAL CONTROL

Inoculate with 10-100 CFU acc. to harmonised Parmacopoeia or with 100-1000 CFU for selectivity.

Analytical methodology acc. to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 30-35 ºC. Reading at 18-72 h.

Microbiological control acc. to ISO 11133:2014/A1:2018; A2:2020.

Microorganism	Growth
Escherichia coli ATCC® 8739, WDCM 00012	Inhibited
Stph. epidermidis ATCC® 12228, WDCM 00036	Poor to good - white colonies, red medium
Staphylococcus aureus ATCC® 6538, WDCM 00032	Good (≥50 %) - white colonies, yellow medium
Stph. aureus ATCC® 25923, WDCM 00034	Good (≥50 %) - white colonies, yellow medium

Sterility control:
Incubation 48 hours at 30-35 ºC and 48 hours at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

BIBLIOGRAPHY

· ATLAS, R.M. & L.C.PARKS (1993) Handbook of Microbiological Media. CRC Press. Boca Raton. Fla. USA.
· CHAPMAN (1945) The significance of sodium chloride in studies of staphylococci. J. Bact. 50:201.
· DOWNES, F.P. & K. ITO (2001) Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA. Washington. DC. USA.
· EUROPEAN PHARMACOPOEIA 10.0 (2020) 10th ed. § 2.6.13. Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. EDQM. Council of Europe. Strasbourg.
· FDA (Food and Drug Administration) (1995) Bacteriological Analytical Manual. 8th ed. Revision A. AOAC International Inc. Gaithersburg. MD. USA.
· ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
· ISO 22718 Standard (2015) . Cosmetics - Microbiology - Detection of *Staphylococcus aureus*.
· USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.

STORAGE

2-14 °C

SHELF LIFE

3 months