OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

Coagulase Mannitol Broth Base

Principle

Coagulase Mannitol Broth Base medium is composed or special peptone, peptone, D-mannitol, sodium chloride and phenol red. Special peptone and peptone, which provide necessary nutrients to the growth of test organisms. D-mannitol is carbon source. Sodium chloride maintain osmotic equilibrium of the medium. The phenol red is pH indicator dye. To detect the coagulase activity the media is fortified rabbit serum. Coagulase production is dependent on the presence of a fermentable sugar (mannitol) and presence of a protein factor in the brain heart infusion and blood plasma. When mannitol is fermented, the pH of the medium drops. This drop in pH is indicated by the change in color of the phenol red, which turns yellow, and exhibit yellow medium. An opaque broth due to coagulated plasma forms due to growth of coagulase positive organisms. Staphylococcus epidermidis a coagulase negative and mannitol nonfermenting species, does not change the color of the medium. Coagulase negative species may ferment mannitol and produce a yellow color but opacity will not be formed. Production of gas can be determined by placing a small inverted Durhams tube in the medium tube. For the test, use this medium in 2 to 5 ml amounts after adding about 12-15% plasma. Inoculate by adding about 2 drops of test organism and incubate at 37°C and examine after 2-3 hours and also after 4-5 hours of incubation. Un-inoculated control tubes should also be run in parallel with the fermentation tests.

Use: For detection of coagulase production and mannitol fermentation in differentiation of Staphylococci.

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Contents*

Ingredients	Gram/Litre
Special Peptone#	375.00
Peptone	10.00
D-Mannitol	10.00
Sodium chlored	5.00
Phenol red	0.025
pH at 25˚C	7.4 ±0.2

*** Formula adjusted for optimum performance and parameters**
 # Equivalent of Heart Muscle infusion form

Directions: Dissolve 35.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely and distribute in desired. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C and aseptically add sterilized 7-15% rabbit plasm, mix well and distribute in desired and inoculate test sample aseptically.

Specimens types analyzed

Clinical samples, food and dairy samples etc

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

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Quality Control

Appearance	**Light Beige colored free flowing, homogeneous powder**
Reaction of 3.50% solution	**7.4 ±0.2 at 25 ˚C**
pH	**7.20- 7.60**
Color and clarity of ready medium	**red colored opalescent solution**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

Different Microbial Response

Prepare media as per labelled direction. Cultural characteristics observed with added 7-15% v/v sterile pretested coagulase plasma after an incubation at 35-37°C for 18-48 hours.

Organism	ATCC	Growth	Acid from mannitol	Coagulase activity
Staphylococcus aureus	**29523**	**Luxurious**	**Positive reaction, yellow color**	**Positive reaction, clot formation**
Staphylococcus epidermidis	**12228**	**Inhibited**	**Negative reaction no color change**	**Negative reaction, no clot formation**
Escherichia coli	**8739**	**Inhibited**	**Negative reaction no color change**	**Negative reaction, no clot formation**

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

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Reference

1. **Isenberg, H.D. (2004) Clinical Microbiology Procedure Handbook. Vol. 2, American Society for Microbiology, ASM Press.**
2. **Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.**

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