CHAPMAN STONE AGAR

CSAG-0HI-500

- **Principle**

Chapman Stone Agar is a selective and differential medium used for the isolation of staphylococci, particularly Staphylococcus aureus, from food and other samples with mixed microbial flora.

The high concentration of sodium chloride inhibits most microorganisms other than staphylococci, allowing their selective growth. The presence of mannitol enables differentiation: S. aureus typically ferments mannitol, producing acid and causing a visible colour to change in the medium, whereas most coagulase-negative staphylococci grow without altering it.

This medium is widely applied in food microbiology for the presumptive detection of S. aureus, an important cause of food poisoning due to enterotoxin production. Mannitol fermentation provides an initial indication, but confirmation tests are required.

Colonies are usually smooth and well defined; mannitol-fermenting strains are surrounded by a colour change in the medium.

- **Regulatory compliance**

This product is manufactured under a quality management system in accordance with ISO 9001 and ISO 13485, and its formulation and quality control comply with applicable international standards, such as ISO 11133, where relevant.

- **Composition**

Ingredients	**g/L**
Tryptone	10.00
Yeast Extract	2.50
Gelatine	30.00
Mannitol	10.00
Sodium Chloride	55.00
Ammonium sulphate	75.00
Dipotassium Phosphate	5.00
Agar	15.00

- **Preparation**

Dissolve 202 grams in 1,000 ml distilled water, boil to dissolve the medium completely and sterilize by autoclaving at 15 lbs. pressure (121 °C) for 15 min, cool it to 42-45 °C and continuously shake while distributing in petri plates. Ensure complete solidification and inoculate test sample aseptically.

- **Applications and use**

Mannitol fermentation test: Pick a colony from the medium on a cavity slide, add a drop of 0.04% bromothymol blue to the plate, and observe for the formation of a yellow colour (positive reaction).

Gelatinase test: Flood the plate with 5 ml of saturated ammonium sulphate solution and incubate at 35 ± 2°C for 10 minutes. Observe for a zone of clearing around the colonies (positive reaction).

- **Quality control**

Solubility	w/o rests
Appearance	Fine powder
Colour of the dehydrated medium	Beige
Colour of the prepared medium	Light amber
Final pH (25 °C)	7.0 ± 0.2

- **Microbiological test**

Incubation period: 33-37 °C, 18-48 h. Inoculum 50-100 CFU.

Microorganism	ATCC	Growth	Mannitol fermentation	Gelatinase
Staphyloccus aureus	25923	Luxurious	Positive reaction	Positive reaction
Escherichia coli	8739	Inhibited	-	-

- **Storage**

The product is highly hygroscopic; keep the container always closed 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. Temp. Min.:2 °C Temp. Max.:25 °C.

Note: Sterilize media immediately after reconstitution.

- **Bibliography**

Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press. 2.

Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.

- **Product use limitation**

This product is developed, designed and supplied exclusively for research use only. It is not intended for diagnostic applications or drug development, and it is not suitable for administration to humans or animals.