

TECHNICAL DATA SHEET

TCBS Agar, Modified

Principle

TCBS agar is composed of yeast extract, proteose peptone, sodium citrate, sodium thiosulfate, oxgall, saccharose, sodium chloride, ferric citrate, bromothymol blue, thymol blue and agar. Yeast extract provides nitrogen, carbon, vitamins and other growth factors and proteose peptone provide the nitrogen and amino acids. Sodium citrate, sodium thiosulfate and oxgall are selective agents to inhibit gram-positive organisms and suppress coliforms in addition to that increase the pH of medium. The alkaline pH of the medium enhances the growth of *Vibrio cholerae*. Saccharose is a fermentable carbohydrate. Sodium chloride maintain osmotic balance. Sodium Thiosulfate is a sulfur source and reacts with ferric citrate as an indicator to detect hydrogen sulfide production. Bromothymol blue and thymol blue are pH indicators. Agar is a solidifying agent.

Use: For selective isolation of *Vibrio cholerae* and other enteropathogenic *Vibrio*'s.

Contents*

Ingredients	Gram/Liter
Yeast extract	5.00
Special peptone	10.00
Sodium citrate	10.00
Sodium thiosulfate	10.00
Sodium chloride	10.00
Sodium cholate	3.00
Oxgall	5.00
Sucrose	20.00
Ferric citrate	1.00
Bromothymol blue	0.04
Thymol blue	0.04
Agar	14.00
pH at 25°C	8.6 ±0.1

* Formula adjusted for optimum performance and parameters

OXFORD LAB FINE CHEM LLP

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Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com



Directions: Dissolve 88.08 grams in 1000 ml distilled water. Boil to dissolve the medium completely **DO NOT AUTOCLAVE**, cool it to 42-45 °C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically

Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical 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.

Quality Control

Appearance	Light tan with greenish ting colored free flowing, homogeneous powder
Reaction of 8.8% solution	8.6 ±0.1 at 25 °C
pH	8.50- 8.70
Gelling	Firm comparable with 1.4% agar gel
Color and clarity of ready medium	Greenish blue colored opalescent gel
Growth Promotion properties	Best at ≤ 100 CFU at 32-37 °C for 18-72 h
Indicative properties	Optimum at ≤ 100 CFU at 32-37 °C for 18-48 h
Negative control	Performed using sterile distilled water

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Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours.

Organism	ATCC	Inoculum (CFU)	Growth	Recovery	Colony color
<i>Vibrio cholerae</i>	14035	50-100	Luxuriant	≥ 60%	Yellow color
<i>Vibrio parahaemolyticus</i>	17802	50-100	Luxuriant	≥ 60%	Blue color
<i>Escherichia coli</i>	8739	50-100	Inhibited	--	--
<i>Shigella flexneri</i>	9199	50-100	Inhibited	--	--
<i>Enterococcus faecalis</i>	14506	50-100	Inhibited	--	--

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.

Reference

1. 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.
3. Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), *Standard methods for the examination of water and wastewater*. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.

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