

TCBS Agar | Ready-to-use Media

a product by **Biomed MDX**

Effective Date: 15/11/2024

REF FP90T2001

Intended Use:

For selective and differential culture medium are used for the isolation and presumptive identification of a specific group of bacteria, particularly those that cause food poisoning.

Principle of the Procedure:

TCBS (Thiosulfate-Citrate-Bile Salts-Sucrose) agar is used to isolate and presumptively identify other enteropathogenic, particularly those that cause food poisoning. It contains selective agents (like bile salts and sodium cholate) that inhibit gram-positive bacteria and some gram-negative bacteria that are not members of the vibrio genus. Sucrose is fermented and produces acid that lowers the pH of the medium and turns to yellow colonies on agar for example *Vibrio alginolyticus*. Species such as *Vibrio parahaemolyticus*, do not ferment sucrose and produce blue-green colonies. Further microbiological identification tests are necessary to confirm and diagnose the presence of microorganisms.

Product Summary:

TCBS Agar is a selective and differential medium for bacterial isolation. Its components inhibit many bacteria while favoring specific growth, differentiating them by sucrose fermentation: fermenters yield yellow, non-fermenters blue-green colonies. It's used for infection diagnosis, food testing, and environmental monitoring.

Formulation (Approximately *per Liter):

Yeast Extract	5.0g	Sodium Chloride	10.0g
Proteose Peptone No. 3	10.0g	Ferric Ammonium Citrate	1.0g
Sodium Citrate	10.0g	Bromthymol Blue	0.04g
Sodium Thiosulfate	10.0g	Thymol Blue	0.04g
Oxgall	8.0g	Agar	15.0g
Saccharose	20.0g		

pH 8.6 +/- 0.2

**Adjust and/or supplemental as required to meet performance criteria*

Procedure

Materials Provided

90mm TCBS Agar.

Materials Required but Not Provided

Ancillary culture media, reagents, and laboratory equipment as required.

Test Procedure

1. Streak the specimen as soon as possible after it is received in the laboratory with an aseptic technique.
2. Incubate plates at 35°C ± 2°C for 18 to 24 hours.
3. Observe the result according to user requirements.
4. Dispose of all used reagents and contaminated materials as infectious waste. Laboratories must handle and dispose of all waste safely according to regulations.

Results

After incubation, most plates will show an area of confluent growth. Because the streaking procedure is, in effect, a dilution technique, diminishing numbers of micro-organisms are deposited on the streaked areas.

Quality Control

Inoculate representative samples with the following strains. Incubate the inoculated plates at $35 \pm 2^{\circ}\text{C}$ for 18 to 24 hrs. to allow colonies to develop on the medium.

Strains	ATCC®	Growth Results
<i>Vibrio alginolyticus</i>	17749	Yellow colonies
<i>Vibrio parahaemolyticus</i>	17802	Blue green colonies
<i>Escherichia coli</i>	25922	No growth
Uninoculated plate	-	No growth

Transportation:

Temperature fluctuations may occur during transportation. However, these fluctuations do not affect the performance, quality, or safety of the media.

Storage and Shelf Life:

Upon receipt, store plates at 2 to 8°C, in their original sleeve wrapping until just before use. Avoid freezing and overheating.

The plates may be inoculated up to the expiration date (see package label) and incubated for the recommended incubation times.

Warning and Precautions:

For in vitro diagnostic use. For Professional Use Only. Do Not Reuse.

Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration.

Limitations of the Procedure

For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification¹⁻⁴.

Reference

1. Scallan, E., Hoekstra, R. M., Angulo, F. J., Tauxe, R. V., Widdowson, M. A., Roy, S. L., ... & Griffin, P. M. (2011). Foodborne illness acquired in the United States—major pathogens. *Emerging infectious diseases*, 17(1), 7.
2. Newton, A., Kendall, M., Vugia, D. J., Henao, O. L., & Mahon, B. E. (2012). Increasing rates of vibriosis in the United States, 1996–2010: review of surveillance data from 2 systems. *Clinical Infectious Diseases*, 54(suppl_5), S391-S395.

Packaging Symbol

Symbol	Definition
	Catalogue number
	In Vitro Diagnostic Medical Device
	Batch code
	Date of manufacture
	Temperature limit
	Use-by date
	Keep away from sunlight
	Do not re-use
	Fragile, handle with care
	Consult instructions for use or consult electronic instructions for use
	Do not use if packaging damaged and consult instructions for use
	Manufacturer

Further Information:

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