

TM 1299 - TCBS AGAR (IS : 5887 (Part V) 1976, reaffirmed 2005)

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

TCBS Agar, developed by Kobayashy, is a modification of the original formula described by Nakanishi. The medium is recommended for the selective isolation of *V.cholerae* and other enteropathogenic Vibrios causing food poisoning. It specifically isolates the *Vibrio* species on the basis of the organism's ability to grow at an alkaline pH and high salt concentration. All the organisms growing in this medium can be differentiated easily with the help of sucrose fermentation reaction and their ability to produce H₂S. It is recommended by BIS committee under the specification IS: 5887 (Part V)-1976.

COMPOSITION

Ingredients	Gms / Ltr
Sucrose	20.000
Agar	15.000
Proteose peptone	10.000
Sodium citrate	10.000
Sodium thiosulphate	10.000
Sodium chloride	10.000
Ox bile	8.000
Yeast extract	5.000
Ferric citrate	1.000
Bromothymol blue	0.040
Thymol blue	0.040

PRINCIPLE

The medium contains Proteose peptone and Yeast extract which are the sole sources of carbon, nitrogen, vitamin B - complex, minerals and amino acids in the medium. Sodium thiosulphate serves as a sulphur source and, in combination with Ferric citrate, detects hydrogen sulphide production. Sucrose is included as a fermentable carbohydrate for the metabolism of *Vibrio*. Inhibition of gram- positive bacteria is achieved by the incorporation of Ox bile, which is a synthetic occurring substance and suppresses primarily Enterococci. Ox bile also helps to inhibit gram - positive bacteria. The alkaline pH of the medium enhances the recovery of *V. cholerae* because this organism is sensitive to acid environments. Thymol blue and Bromothymol blue are included as indicators of pH changes. Sodium citrate and Sodium thiosulphate are the selective agents, providing an alkaline pH to inhibit gram- positive organism and suppress coliforms. Agar is the solidifying agent.

INSTRUCTION FOR USE

- Dissolve 89.00 grams in 1000 ml distilled water.
- Gently heat to boiling with gentle swirling and dissolve the medium completely.
- Do Not Autoclave
- Cool to 45-50°C and pour into sterile petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	:	Light yellow coloured, homogeneous free flowing powder
Appearance of Prepared medium- Basal medium	:	Bluish green colored, clear to slightly opalescent gel
pH (at 25°C)	:	8.6± 0.2

INTERPRETATION

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours for bacteria. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Vibrio cholerae</i>	15748	50-100	Good-Luxuriant	>=50%	Yellow	35-37°C	18-48 hours
<i>Vibrio parahaelyticus</i>	17802	50-100	Good-Luxuriant	>=50%	Blue	35-37°C	18-48 hours
<i>Vibrio vulnificus</i>	29306	50-100	Fair-Good	30-40%	Greenish yellow	35-37°C	18-48 hours
<i>Escherichia coli</i>	25922	≥1000	Inhibited	0%		35-37°C	18-48 hours
<i>Shigella flexneri</i>	12022	≥1000	Inhibited	0%	-	35-37°C	18-48 hours
<i>Enterococcus faecalis</i>	29212	≥1000	Inhibited	0%	-	35-37°C	18-48 hours

PACKAGING:

In 100 & 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use powder if they show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Department of Health NHS Executive: The Caldicott Committee. Report on the review of patient identifiable information. London. December. (1997).
2. Kobayashi, Enomoto, Sakazaki and Kuwahara, A new selective isolation medium for pathogenic vibrios: TCBS-Agar, Jap. J. Bacteriol., 18, 387. (1963).
3. Howard B., Clinical and Pathogenic Microbiology, 2nd ed., The C.V. Mosby Co., Mosby-Year Book, Inc., St. Louis (1994).
4. Kobayashi, T., S. Enomoto, R. Sakazaki, and S. Kuwahara. 1963. A new selective medium for pathogenic vibrios, TCBS (modified Nakanishi's agar). Jpn. J. Bacteriol. 18:387. Nakanishi, Y. (1963).
5. Bureau of Indian Standards, IS : 5887 (Part V) 1976, reaffirmed 1986.



IVD

For In Vitro Diagnostic Use

QTY.

Quantity

**LOT/
B. NO.**

Lot / Batch Number



Temperature Unit



Best Before



European Conformity



QR
Code

REF

Catalogue No.



Consults Instructions for use :



Manufacturer

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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