

Technical Data Sheet

TCBS AGAR DEHYDRATED MEDIUM

Art. 84641.0500

Also known as

Cholera Medium TCBS

Intended use

Solid medium for the selective isolation of *Vibrio* spp, and *Vibrio parahaemolyticus* according to the ISO standard.

Formula * - Composition in g/L

Proteose peptone.....	10.000	Ferric citrate.....	1.000
Yeast extract.....	5.000	Thymol blue.....	0.040
Sodium citrate.....	10.000	Bromthymol blue.....	0.040
Sodium thiosulphate.....	10.000	Agar.....	14.000
Ox bile.....	8.000		
Sucrose.....	20.000	Final pH 8.6 ±0.2 at 25 °C	
Sodium chloride.....	10.000		

* Adjusted and /or supplemented as required to meet performance criteria

Instructions for preparation

Suspend 88 g of powder in 1 l of purified water. Heat with constant stirring until boiling. Pour immediately into plates. Do not sterilise and avoid remelting.

Principle of the method and general information

TCBS Agar is universally accepted as the medium of choice for differential isolation of enteropathogenic vibrios, whilst inhibiting all the accompanying organisms. This formulation provides high growth of *Vibrio cholerae* and *V. parahaemolyticus*. *V. alginolyticus* and NAG-vibrios. Enterobacteria are strongly inhibited by high concentrations of citrate, thiosulfate, bile and sodium chloride.

Although some enteric bacteria may also grow in this medium, their colony morphology is quite different to that of *Vibrio* spp.

The organisms that can be confused with vibrios are some biotypes of *Proteus* and *Pseudomonas*. There are some resistant enterococci which may form exceptionally small and yellow colonies on this medium. Usually, colonies are selected or chosen and then identified with primary tests [oxidase reactions in Kligler Iron Agar, MRVP Broth, and antibiotic sensitivity test] before performing serological identification and phage typing.

Due to its high selectivity, the medium can be seeded with large inoculum of pathological material. Once solidified and cooled, the medium is turbid, but the observations are not affected.

This medium is very thermolabile and so it must not be autoclaved, overheated or re-melted.

Colonial appearance on TCBS Agar after 24 hours at 37°C:

- *Vibrio alginolyticus* and *Vibrio cholerae*: Large, yellow colonies.
- *Vibrio parahaemolyticus*: Small, yellow, without halo and with a green core.
- *Streptococcus faecalis*: Very small and convex, yellow with yellow halo.
- Enterobacteria generally: Small and transparent.
- *Pseudomonas*, *Aeromonas*, *Proteus*: meat medium size and blue.
- Some strains of *Vibrio cholerae* and *Vibrio parahaemolyticus* carry out delayed sucrose fermentation so they produce medium sized colonies, and are colourless or dirty yellow with a dark nucleus.

Quality control

Incubation temperature: 37°C ±1.0

Incubation time: 24±3 h

Inoculum: Previous enrichment. 6±1h (ASPW). Streak isolation. (ISO 11133:2014/Amd 1:2018)

Microorganism

Vibrio parahaemolyticus ATCC® 17802
Vibrio alginolyticus ATCC® 17749
Vibrio furnissii NCTC® 11218
Escherichia coli ATCC® 8739

Growth

Good
Good
Good
Inhibited

Remarks

Blue-green colonies 3-5mmØ
Yellow colonies 3-5mmØ
Yellow colonies 3-5mmØ
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References

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Storage conditions

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).

Ordering information

84641.0500 TCBS AGAR Bulk of 500 g.

Note: For supplements see the section - Instructions for preparation.