

**PRODUCT CODE: 413817**

## **TCBS Cholera Medium (Dehydrated Culture Media) for microbiology**

### **Preparation**

Suspend 88 grams of the medium in one litre of distilled water. Mix well for 10 to 15 minutes. Dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. **DO NOT OVERHEAT. DO NOT AUTOCLAVE.** Cool to 45-50°C, mix and dispense into plates. The prepared medium should be stored at 8-15°C.

The colour is green. The dehydrated medium should be homogeneous, free-flowing and light toasted green tint in colour. If there are any physical changes, discard the medium.

### **Uses**

TCBS AGAR is a selective medium widely used to isolate and cultivate practically all bacteria of genus *Vibrio*, including *V. cholerae* and *V. alginolyticus*, pathogenic to humans causing cholera, cholera diarrhoea or food poisoning from contaminated foods and from stool specimens. The last two conditions especially can be caused by ingesting raw or partially processed fish or seafood containing *Vibrio parahaemolyticus*. The only *Vibrio* that does not grow in TCBS is *V. hollisae*.

The Meat and Casein peptones provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Sodium citrate, Sodium thiosulfate and Ox Bile are the selective agents, inhibiting the Gram-positive bacteria. Sodium thiosulfate provides sulphur and Ferric citrate is the indicator for H<sub>2</sub>S production. Sucrose is the carbohydrate energy source. Bromothymol blue and Thymol blue are pH indicators. Sodium Chloride promotes growth (*Vibrio* grows well in salt media). Bacteriological agar is the solidifying agent. The alkaline pH of the medium enhances the recovery of *V. cholerae*.

The suspect material (feces, vomit, rectal swabs, fish and other food) is heavily inoculated on the surface of the plate, incubated at 35 ± 2°C for 18-24°C. Sucrose-positive vibrios, such as *Vibrio cholerae* and *Vibrio alginolyticus*, are yellow on TCBS. Sucrose-negative ones, such as *Vibrio parahaemolyticus* and *Vibrio vulnificus*, produce blue-green colonies.

Almost all *Vibrio* ferment sucrose and yield yellow colonies from the production of acid. Some types of *Proteus* (fermenters of sucrose) can form yellow colonies similar to those of *Vibrio*

### **Composition**

See in Data Sheet (TDS).

## Microbiological Test

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of  $35 \pm 2^\circ\text{C}$  and observed after 18 - 24 hours.

Microorganism	Growth	Colony Colour
<i>Vibrio cholerae Inaba</i>	Good	Yellow
<i>Vibrio cholerae Ogawa</i>	Good	Yellow
<i>Vibrio alginolyticus ATCC 19108</i>	Moderate	Yellow
<i>Vibrio parahemolyticus ATCC 17802</i>	Good	Blue
<i>Enterobacter cloacae ATCC 13047</i>	Inhibited	Yellow
<i>Proteus mirabilis ATCC 14273</i>	Moderate	Light-Blue
<i>Escherichia Coli ATCC 25922</i>	Null	-
<i>Pseudomonas aeruginosa ATCC 27853</i>	Inhibited	Blue

## Storage

Once opened keep powdered medium closed to avoid hydration.

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