

## TM 876 – TCBS AGAR (MODIFIED)

### INTENDED USE

For selective isolation of *Vibrio cholerae* and other enteropathogenic *Vibrios*.

### PRODUCT SUMMARY AND EXPLANATION

TCBS Agar was first formulated by Nakanishi and further modified by Kobayashi et al. It promotes rapid growth of pathogenic *Vibrio*'s after 24 hours incubation at 37°C. The contaminating non-vibrio's are suppressed. Strains of *Vibrio cholerae* produce yellow colonies on TCBS Agar because of fermentation of sucrose. *Vibrio alginolyticus* also produce yellow colonies. *Vibrio parahaemolyticus* is a sucrose non-fermenting organism and produces blue-green colonies, as of *Vibrio vulnificus*. As mentioned previously, occasional isolates of *Pseudomonas* and *Aeromonas* species also produce blue-green colonies, but overall TCBS Agar is highly selective and any H<sub>2</sub>S-negative colony is possibly *Vibrio* species. The medium should be inoculated heavily with faecal specimens because some *Vibrio* species readily die off on the medium, owing to fermentation of sucrose and accumulation of acids.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone, special	10.000
Yeast extract	5.000
Sodium citrate	10.000
Sodium thiosulphate	10.000
Sodium cholate	3.000
Oxgall	5.000
Sucrose	20.000
Sodium chloride	10.000
Ferric citrate	1.000
Bromo thymol blue	0.040
Thymol blue	0.040
Agar	14.000

### PRINCIPLE

Peptone special and yeast extract provide nitrogenous and carbonaceous compounds, long chain amino acids, vitamin B complex and other essential growth nutrients. Bile a derivative of bile salts and the sodium citrate inhibit gram-positive bacteria. Sodium thiosulphate serves as a good source of sulphur, which in combination with ferric citrate detects the production of hydrogen sulphide. For the metabolism of *Vibrio*'s, sucrose is added as a fermentable carbohydrate. Bromo thymol blue and thymol blue are the pH indicators. The alkaline pH of the medium improves the recovery of *Vibrio cholerae*.

### INSTRUCTION FOR USE

- Suspend 88.08 grams in 1000 ml warm purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Bring just to boil and immediately remove from heat.
- DO NOT AUTOCLAVE. Cool to 45-50°C. Mix well and pour into sterile Petri plates.
- Dry the plates overnight or at 37-45°C before use.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Light yellow to tan coloured homogeneous free flowing powder.  
**Appearance of prepared medium** : Bluish green coloured clear to slightly opalescent gel forms in petri plates.  
**pH (at 25°C)** : 8.6±0.1

### INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	$\geq 10^4$	Inhibited	0%	-	35-37°C	18-24 Hours
<i>Proteus vulgaris</i>	13315	$\geq 10^4$	Inhibited	0%	-	35-37°C	18-24 Hours
<i>Shigella flexner</i>	12022	$\geq 10^4$	Inhibited	0%	-	35-37°C	18-24 Hours
<i>Enterococcus faecalis</i>	29212	$\geq 10^4$	Inhibited	0%	-	35-37°C	18-24 Hours
<i>Vibrio cholerae</i>	15748	50-100	Good-luxuriant	$\geq 50\%$	Yellow	35-37°C	18-24 Hours
<i>Vibrio fluvialis</i>	33809	50-100	Good-luxuriant	$\geq 50\%$	Yellow	35-37°C	18-24 Hours
<i>Vibrio parahaemolyticus</i>	17802	50-100	Good-luxuriant	$\geq 50\%$	Blue	35-37°C	18-24 Hours
<i>Vibrio vulnificus</i>	29306	50-100	Fair- good	$\geq 20\%$	Greenish-yellow	35-37°C	18-24 Hours

### PACKAGING:

In pack size of 100 gm and 500 gm bottles.

### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

## DISPOSAL

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

## REFERENCES

1. Kobayashi, Enomoto, Sakazaki and Kuwahara, 1963, Jap. J. Bacteriol., 18:387.
2. Nakanishi, 1963, Modern MEdia, 9:246.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Birkstrasse 10, 49163 Moers, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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

**\*For Lab Use Only**  
**Revision: 08 Nov., 2019**