TM 875 – TCBS AGAR (SELECTIVE)

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

TCBS Agar was developed by Kobayashi et al, who modified the selective medium of Nakanishi. Although this medium was originally designed for the isolation of *V. cholerae* and *V. parahaemolyticus*, most Vibrios grow to healthy large colonies with many different colonial morphologies. TCBS Agar is also recommended by APHA for the selective isolation of *V.cholerae* and *V.parahaemolyticus*. Enrichment in Alkaline Peptone Water, followed by isolation on TCBS Agar is routinely used for isolation of *V.cholerae*. TCBS Agar, Selective has an additional selective ingredient i.e. sodium cholate for improved selectivity. TCBS Agar is not a suitable medium for oxidase testing of *Vibrio* species. A few strains of *V. cholerae* may appear green or colourless on TCBS Agar due to delayed sucrose fermentation. TCBS Agar is highly selective for *Vibrio* species. However, occasional isolates of *Pseudomonas* and *Aeromonas* may also form blue green colonies on TCBS Agar. Any H2S negative colony of TCBS Agar can be considered presumptive positive for *Vibrio*.

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	15.000

PRINCIPLE

Peptone special and yeast extract provide nitrogenous, carbonaceous compounds, long chain amino acids, vitamin B complex and other essential growth nutrients. Bile and sodium citrate inhibit gram-positive bacteria and coliforms. 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 Vibrios, sucrose is added as a fermentable carbohydrate. *Vibrio* that is able to utilize sucrose will form yellow colonies. Bromothymol blue and thymol blue are the pH indicators. The alkaline pH of the medium improves the recovery of *V.cholerae*. Strains of *V. cholerae* produce yellow colonies on TCBS Agar because of fermentation of sucrose. *V. alginolyticus* also produce yellow colonies. *V. parahaemolyticus* is a sucrose non-fermenting organism and therefore produces blue-green colonies, as does *V. vulnificus*. Proteus species that are sucrose-fermenters may form yellow colonies.

INSTRUCTION FOR USE

- Suspend 89.08 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.

- DO NOT AUTOCLAVE and Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light tan homogeneous free flowing powder
Appearance of prepared medium : Bluish green coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 8.8±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of the colony	Incubation Temperature	Incubation Period
Escherichia coli	25922	>=10^4	Inhibited	0%	-	35-37°C	18-24 Hours
Vibrio parahaemolyticus	17802	50-100	Good-luxurian	>=50%	Bluish green	35-37°C	18-24 Hours
Vibrio vulnificus	29306	50-100	Fair-good	20-40%	Greenish yellow	35-37°C	18-24 Hours
Vibrio fluvialis	33809	50-100	Good-luxurian	>=50%	Yellow	35-37°C	18-24 Hours
Enterococcus faecalis	29212	>=10^4	Inhibited	0%	-	35-37°C	18-24 Hours
Vibrio cholerae	15748	50-100	Good-luxurian	>=50%	Yellow	35-37°C	18-24 Hours
Shigella flexneri	12022	>=10^4	Inhibited	0%	-	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

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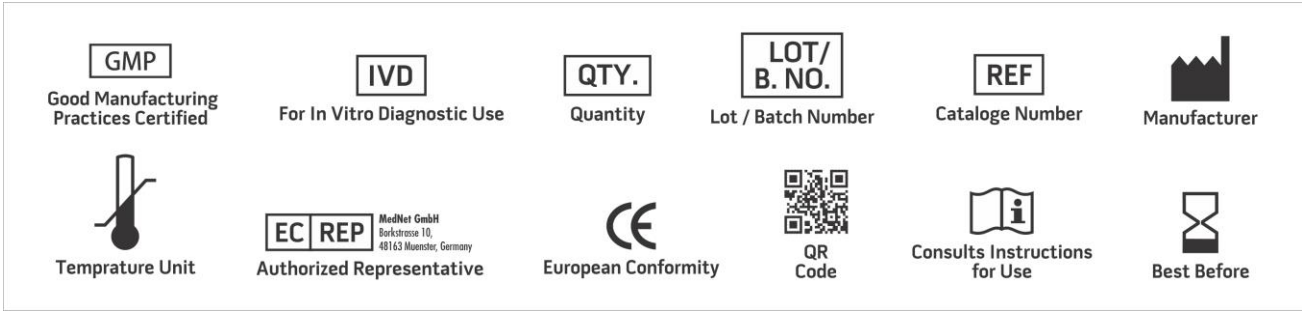

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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