Vibrio spp. Contamination - TCBS Agar Protocol

PURPOSE: To identify sources of gross contamination of various *Vibrio spp.* and other enteropathogenic vibrios at your facility

Uses of TCBS (Thiosulfate-Citrate-Bile Salts-Sucrose) Agar:

1. TCBS Agar was originally developed for the isolation of *Vibrio cholerae* and other enteropathologic *Vibrio* (in particular *Vibrio parahaemolyticus*) in fish, seafood and biological samples of animal origin.

2. TCBS can also be useful for the identification of sources of gross microbial contamination in shellfish hatcheries, but is not regarded as a means to identify particular species of bacteria in the shellfish hatchery or nursery.

Supplies: TCBS powder, Filtered Saltwater, Petri plates

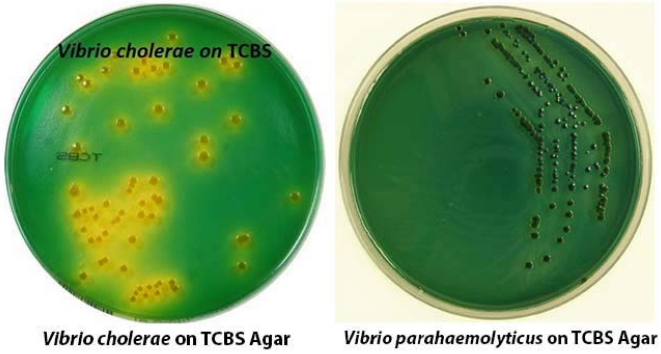
Preparation of TCBS Agar:

1. Suspend 88.1 gm of dehydrated medium in 1 liter of water made by diluting 1 part seawater with 2 parts distilled water.
2. Slowly bring to boiling, stirring with constant agitation until complete dissolution.
3. **Do not autoclave.**
4. Cool to 50°C and pour into sterile Petri plates.

Interpreting Results from TCBS Agar:

If yellow or green colonies are growing on your TCBS Agar, your facility may have gross contamination of *Vibrio spp.* and/or other enterobacteria spp. You should not have large numbers of either colony, color or type in algal cultures, seawater or culture tanks.

Further Reading: Find more information about TCBS Agar at microbiologyinfo.com
www.microbiologyinfo.com/thiosulfate-citrate-bile-salts-sucrose-tcbs-agar-composition-principle-uses-preparation-and-colony-morphology/



Examples of Vibrio colonies on TCBS Agar (above) and typical microorganisms and their characteristics (below)

MICROORGANISMS	CHARACTERISTICS
Vibrio cholera	Flat yellow colonies, 2-3 mm in diameter
Vibrio alginolyticus	Large yellow colonies
Vibrio fluvialis, Vibrio vulnificus	Yellow or translucent colonies
Vibrio parahaemolyticus	Colorless colonies with a green center
Pseudomonas, Aeromonas	Blue colonies
Enterobacteria or others	Tiny transparent colonies

Source: microbiologyinfo.com

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Contact: For more information about this project, protocols, or how to request supplies contact Pacific Shellfish Institute (3/2018).

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