



## Glucose Salt Teepol Broth (Twin Pack)

M621

Glucose Salt Teepol Broth is used for enrichment of *Vibrio parahaemolyticus* and marine isolates.

### Composition\*\*

Ingredients	Gms / Litre
Part A	-
Peptic digest of animal tissue	10.000
Beef extract	3.000
Sodium chloride	30.000
Glucose	5.000
Methyl violet	0.002
Part B	-
Teepol	4.000
Final pH ( at 25°C)	8.8±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 48 grams of Part A in 1000 ml distilled water containing 4.0 ml of Part B. Heat gently to dissolve the medium completely. Dispense in tubes as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

### Principle And Interpretation

Glucose Salt Teepol Broth is a special media used to enrich *Vibrio parahaemolyticus* from sea foods (4) and also used to enumerate the bacteria by MPN technique (1).

*V.parahaemolyticus* is a gram-negative marine bacterium, which causes seafood-borne gastroenteritis in humans (2). Fujino and co-workers were the first to isolate *Vibrio parahaemolyticus* as a causative agent of food-borne gastroenteritis, following a large outbreak in Japan (3).

Peptic digest of animal tissue and beef extract provide essential nitrogenous nutrients and the high percentage of sodium chloride (3%) helps for the better enrichment of halophilic *V.parahaemolyticus*. Glucose is utilized while teepol inhibits the growth of gram-positive organisms. The test sample should be held under moderate refrigeration (about 7 to 10°C) and should be analyzed as soon as possible, after collection as possible. This maximizes the survival and recovery of *Vibrio* 's and reduces the tendency for overgrowth by indigenous marine microflora.

Weigh 50 gram of seafood sample into a blender. Add 450 ml of PBS (Phosphate Buffer Saline) dilution water and blend for 1 min at 8000 rpm. This constitutes the 1:10 dilution. Prepare 1:100, 1:1000, 1:10000 dilutions or higher if necessary in PBS. Inoculate 3 x 10 ml portion of the 1:10 dilution into 3 tubes containing 10 ml of enrichment broth i.e. Glucose Salt Teepol Broth in 2x concentration. This represents the 1-gram portion. Similarly inoculate 10 ml of single strength enrichment broth as above. If high numbers of *V.parahaemolyticus* are expected, the examination may start at the 1:10 dilution of the product (1). After overnight incubation of Glucose Salt Teepol Broth at  $35 \pm 2^\circ\text{C}$ , a loopful of culture from top 1 cm of the broth showing growth is streaked onto TCBS Agar (M189). After overnight incubation at  $35 \pm 2^\circ\text{C}$ , *V.parahaemolyticus* colonies on TCBS Agar appear as round, green or bluish measuring 2.3 mm in diameter, while *V.alginolyticus* colonies are larger and yellow coloured. These colonies are further identified by biochemical characterization. For biochemical tests in identification of *V.parahaemolyticus*, *V.cholera*, and *V.vulnificus*, appropriate positive control organisms have to be inoculated. When the blue green colonies are finally identified as *V.parahaemolyticus*, refer to the original positive dilution in the enrichment broth and apply the 3 tube MPN tables for final enumeration of the organism.

### Quality Control

#### Appearance

Part A : Cream to yellow homogeneous free flowing powder Part B : Colourless viscous liquid

**Colour and Clarity of prepared medium**

Yellow coloured, clear solution with a very slight precipitate.

**Reaction**

Reaction of 4.8% w/v aqueous solution with 0.4% Teepol at 25°C. pH : 8.8±0.2

**pH**

8.60-9.00

**Cultural Response**

M621: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours .

<b>Organism</b>	<b>Inoculum (CFU)</b>	<b>Growth</b>
<b>Cultural Response</b>		
<i>Vibrio alginolyticus</i> ATCC 17749	50-100	good-luxuriant
<i>Vibrio parahaemolyticus</i> ATCC 17802	50-100	good-luxuriant

**Storage and Shelf Life**

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

**Reference**

1. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.
2. Thompson F. L., T. Iida and Swings J., 2004, Biodiversity of Vibrios, Microbiol. Mol. Biol. Rev., 68: 403-431.
3. Fujino T., Okuno Y., Nakada D., Aoyama A., Fukai K., Mukai T. and Ueho T., 1953, Med. J. Osaka Univ., 4:299-304.
4. Akiyama S., Takizawa K., and Obara Y., 1964, Ann. Rep. Kanagawa Pref. Inst. Public Health, 13:7

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