

Technical Information

ITC MiVeg Broth Base (TTC MiVeg Broth Base)

Product Code : VM2220

Application:- ITC MiVeg Broth Base is recommended for selective enrichment and enumeration of *Yersinia enterocolitica*.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	10.0
Yeast extract	1.0
Magnesium chloride .6H ₂ O	60.0
Sodium chloride	5.0
Malachite green	0.01
Irgasan (Trichlosan)	0.001
Final pH (at 25°C)	6.9 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

ITC MiVeg Broth Base is prepared by adding MiVeg hydrolysate instead of Casein enzymic hydrolysate thereby making the medium BSE/TSE risks free. ITC MiVeg Broth Base is the modification of ITC Broth Base which was formulated as per APHA (1) recommendation, a selective enrichment medium for *Yersinia enterocolitica*.

Yersinia enterocolitica is an oxidase negative, non-lactose fermenting, gram negative coccobacilli, motile at 22°C but non-motile at 37°C. It grows well between pH 5.0 to 9.6. *Yersinias* are known to be more resistant to high pH than other gram-negative bacteria. This property has been exploited for isolation of *Yersinia* by treating enrichment broths for a very short period to alkali salt or alkali hydroxide (KOH) before plating on agar media (2) that reduces the undesired organisms other than *Yersinia* to a great extent. Therefore, potassium chlorate has a role of disinfecting ingredient in the enrichment medium, i.e. ITC MiVeg Broth Base. MiVeg hydrolysate and yeast extract supplies all the essential growth nutrients. Ticarcillin has inhibitory action on both gram-positive and gram-negative organisms. Irgasan inhibits gram-positive organisms.

Methodology

Suspend 76.01 grams of powder media in 1000 ml distilled water. Mix thoroughly and heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add 1 vial of each Ticarcillin Supplement (MS2102) and Potassium Chlorate Supplement (MS2103). Mix well before dispensing in sterile tubes.

Quality Control

Physical Appearance

Greenish yellow coloured, homogeneous, free flowing powder.

Gelling

Peacock green coloured, clear solution without any precipitate.

Colour and Clarity of prepared medium

Reaction of 7.60% w/v aqueous solution is pH 6.9 ± 0.2 at 25°C.

Reaction

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours with added Ticarcillin Supplement (MS2102) and Potassium Chlorate Supplement (MS2103).

pH Range

6.7-7.1

Cultural Response/Characteristics

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

Organisms (ATCC)	Inoculum (CFU)	Growth*	Growth**	Colour of Colony	Recovery
<i>Enterococcus faecalis</i> (29212)	10 ² -10 ³	Inhibited	Inhibited	-	0%
<i>Escherichia coli</i> (25922)	10 ² -10 ³	Inhibited	Inhibited	-	0%
<i>Staphylococcus aureus</i> (25923)	10 ² -10 ³	Inhibited	Inhibited	-	0%
<i>Yersinia enterocolitica</i> (27729)	10 ² -10 ³	Luxuriant	Good-luxuriant	Translucent with pink centre	50%

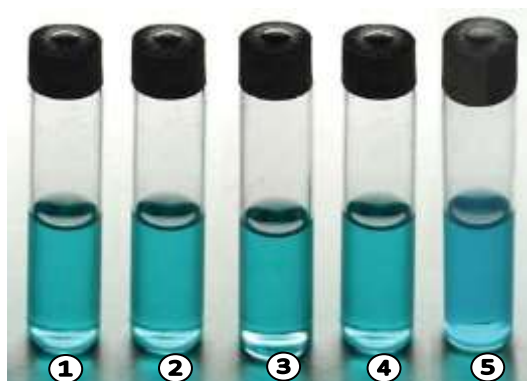
Key : * = in ITC Veg Broth (VM2220)

**= on Yersinia Selective Veg Agar Base (VM1843)

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 day.



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1. Control
2. *Enterococcus faecalis*
3. *Escherichia coli*
4. *Staphylococcus aureus*
5. *Yersinia enterocolitica*

Further Reading

1. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate.
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