Technical Information

M-Slanetz Enterococcus Broth Base

Product Code: DM 2113

Application: - M-Slanetz Enterococcus Broth Base is used for isolation and detection of Enterococci using membrane filter technique.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	25.000
Peptic digest of animal tissue	15.000
Yeast extract	10.000
Dextrose	2.000
Sucrose	100.000
Dipotassium phosphate	4.000
Sodium azide	0.400
Final pH (25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The membrane filter technique is useful when relatively large sample volumes of liquid are to be analyzed. This technique is both reproducible and rapid. Membrane filters are aseptically placed on sterile cotton absorbent filter pads saturated with the appropriate media. The Enterococci portion of the faecal Streptococcus group is a valuable bacterial indicator for determining the faecal contamination of recreational surface waters [1]. M-Slanetz Enterococcus Broth Base formulated by to Slanetz and Bartley [2] is used for the isolation and detection of Enterococci using the membrane filter technique [3]. This medium is a modification of M- Enterococcus Agar developed by Slanetz, Bent and Bartley [4].

Casein enzymic hydrolysate, peptic digest of animal tissue and yeast extract provide necessary nutrients like nitrogenous compounds and vitamin B complex. Dextrose and sucrose are the fermentable carbohydrate sources in the medium. Dipotassium phosphate helps in buffering the medium. Sodium azide inhibits the growth of most of the accompanying gram-negative microbial flora. Triphenyl Tetrazolium Chloride is reduced by Enterococci to formazan, a red coloured complex inside the bacterial cell resulting in the formation of red coloured colonies.

Aseptically place the membrane filters, through which water sample is passed, onto these saturated sterile absorbent cotton pads. Saturated with Melendez Enterococcus broths incubate at 35-37°C for 40-48 hours. Enterococci will form red coloured colonies on the surface of filter membranes. Refer appropriate references for standard procedures [1].

Methodology

Suspend 156.4 grams of powder media in 1000 ml distilled water. Shake well & heat, if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool and aseptically add 1 vial of 2, 3, 5-Triphenyl Tetrazolium Chloride (TTC, MS2057). Mix well before dispensing.

Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder
Colour and Clarity of prepared medium
Yellow coloured clear solution without any precipitate
Reaction
Reaction of 15.6% w/v aqueous solution at 25°C. pH : 7.1±0.2
pH range 6.90-7.30
Cultural Response/ characteristices
DM 2113: Cultural characteristics observed on membrane filter after an incubation at 35-37°C for 40-48 hours

Organism	Inoculum (CFU)	Growth	Colour of Colony (on Membrane filter)
Escherichia coli ATCC 25922	>=10^3	inhibited	
Enterococcus faecalis ATCC 29212	50-100	luxuriant	red-maroon

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^{o} in sealable plastic bags for 2-5 days.

Further Reading

1. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., American Public Health Association, Washington, D.C.

2. Slanetz L. W. and Bartley C. H., 1957, J. Bacteriol., 74: 591.

3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.

4. Slanetz L. W., Bent D. and Bartley C. H., 1955, Public Health Rep.,70: 67.

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