Violet Red Bile Glucose HiCynth™ Agar w/o Lactose

MCD581

Violet Red Bile Glucose HiCynth™ Agar w/o Lactose is used for detection and enumeration of *Enterobacteriaceae* in raw food samples.

Composition**

Ingredients	Gms / Litre
HiCynth™ Peptone No.2*	7.000
HiCynth™ Peptone No.5*	3.000
Sodium chloride	5.000
Synthetic detergent	1.500
Glucose	10.000
Neutral red	0.030
Crystal violet	0.002
Agar	12.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

*Chemically defined peptones

Directions

Suspend 38.53 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50 °C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Violet Red Bile Agar, a modification of MacConkeys original formulation (1) is used for the enumeration of coli-aerogens bacterial group. Violet Red Bile Glucose Agar w/o Lactose, a modification of VRBA (M049), was designed for the enumeration of *Enterobacteriaceae* (2). Violet Red Bile Glucose HiCynth™ Agar w/o Lactose is a modification of Violet Red Bile Glucose Agar wherein animal or vegetable peptones are replaced with chemically defined peptone. It employs the selective inhibitory components crystal violet and synthetic detergent and the indicator system glucose and neutral red. Some bacteria will dissimilate glucose and produce purple zones around the colonies (3). ISO committee has also recommended this medium (4). Selectivity of VRBGA can be increased by incubation under anaerobic conditions and/or at elevated temperature, i.e. equal to or above 42°C (5-7).

HiCynth™ Peptone No.2 and HiCynth™ Peptone No.5 serves as sources of carbon, nitrogen, vitamins and other essential growth nutrients. Glucose is the fermentable carbohydrate, utilization of which leads to the production of acids. Neutral red indicator detects the acidity so formed. Crystal violet and bile salts mixture help to inhibit the accompanying gram-positive and unrelated flora. Sodium chloride maintains the osmotic equilibrium. Further biochemical tests are necessary for positive identification (8).

Quality Control

Appearance

Light yellow to pinkish beige homogeneous free flowing powder

Gelling

Firm,comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Reddish purple coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 3.85% w/v of aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics was observed after an incubation at 35-37°C for 18-24 hours. Recovery rate is considered as 100% for bacteria growth on Soyabean Casein Digest Agar.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
Escherichia coli ATCC 8739	50 -100	luxuriant	>=50 %	pink-red with bile precipitate
Pseudomonas aeruginosa ATCC 9027	50 -100	luxuriant	>=50 %	pink to red
Escherichia coli NCTC 9002	50 -100	good-luxuriant	>=50 %	pink-red with bile precipitate
Escherichia coli ATCC 25922	50 -100	good-luxuriant	>=50 %	pink-red
Salmonella Enteritidis ATCC 13076	50 -100	good-luxuriant	>=50 %	light pink
Enterobacter aerogenes ATCC 13048	50 -100	good-luxuriant	>=50 %	pink-red
Staphylococcus aureus ATCC 25923	>=10^3	inhibited	0%	
Staphylococcus aureus ATCC 6538	>=10^3	inhibited	0%	

Storage and Shelf Life

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

Reference

1.MacConkey A., 1905, J. Hyg., 5, 333-379.
2.Mossel D. A. A., Eclderink I., Koopmans M. and Van Rossem F., 1978, Lab. practice, 27 No. 12: 1049.
3.Corry J. E. L., Curtis G. D. W. and Baird R. M., (Ed.), 1995, Culture Media for Food Microbiology, Vol. 34, Progress in Industrial Microbiology, Elsevier, Amsterdam.
4.International Organization for Standardization (ISO), 1993, Draft ISO/DIS 7402.
5.Mossel D. A. A. and Vega C. L., 1973, Hlth. Lab. Sci., 11:303
6.Mossel D. A. A., Eclderink I., Koopmans M. and Van Rossem F., 1979, Food Protect., 42 : 470
7.Mossel D. A. A. et al, 1986, J. Appl. Bacteriol., 60:289.
8.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore

Revision : 01 / 2016