

Technical Information

EMB MiVeg Agar, Levine

Product Code : VM1022

Application:- EMB MiVeg Agar is recommended for the isolation, enumeration or differentiation of members of *Enterobacteriaceae*.

Composition**

Ingredients	Gms / Litre
MiVeg peptone	10.0
Dipotassium phosphate	2.0
Lactose	10.0
Eosin - Y	0.4
Methylene blue	0.065
Agar	15.0
Final pH (at 25°C)	7.1 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

This medium is prepared by adding MiVeg peptone in place of peptic digest of animal tissue thus making it free from BSE/TSE risks. EMB MiVeg Agar, Levine is the modification of Levine EMB Agar which was developed by Levine (1, 2) and is used for the differentiation of *Escherichia coli* and *Enterobacter aerogenes* and also for the rapid identification of *Candida albicans*. Eosin-Y and methylene blue make the medium slightly selective and inhibit certain gram-positive bacteria. These dyes differentiate between lactose fermenters and non-fermenters. Coliforms as lactose-fermenting organisms, appear as blue black colonies, whereas *Salmonella* and *Shigella* as non lactose fermenting organisms appear as colourless, transparent or amber colonies. EMB MiVeg Agar like the conventional medium, with added Chlortetracycline hydrochloride can also be used for rapid identification of *Candida albicans* in clinical specimens, as proposed by Weld (3, 4). Some gram- positive bacteria such as faecal *Streptococci*, yeasts grow on this medium and form pinpoint colonies. A positive identification of *Candida albicans* can be made after 24 - 48 hours incubation at 35 - 37°C in 10% carbon dioxide atmosphere, from specimens such as faeces, oral and vaginal secretions and nail or skin scraping etc. However, the typical appearance is

Methodology

Suspend 37.5 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. AVOID OVERHEATING. Cool to 50°C and shake the medium in order to oxidize the methylene blue (i.e. restore its blue colour) and to suspend the precipitate which is an essential part of the medium.

Precaution : Store the medium away from light to avoid photooxidation.

Quality Control

Physical Appearance

Light purple coloured, homogeneous, free flowing powder, may contain upto a large amount of minute to small dark red purple particles.

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Reddish purple coloured slightly opalescent gel with greenish cast and finely dispersed precipitate, forms in petri plates.

Reaction

Reaction of 3.75% w/v aqueous solution is pH 7.1 ± 0.2 at 25°C.

pH range

6.9-7.3

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35 - 37°C for 24 - 48 hours.

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery	Colour of colony
Candida albicans (10231)	10 ² -10 ³	Good - luxuriant	>50%	Colourless
Enterobacter aerogenes(13048)	10 ² -10 ³	Good	>50%	Pink-red
Enterococcus faecalis (29212)	10 ³ - 2 x 10 ³	inhibited	0%	--
Escherichia coli (25922)	10 ² -10 ³	luxuriant	>70%	Blue-black
Pseudomonas aeruginosa (27853)	10 ² -10 ³	luxuriant	>70%	Colourless
Saccharomyces cerevisiae (9763)	10 ² -10 ³	None -poor	<20%	Cream
Salmonella serotype Typhimurium (14028)	10 ² -10 ³	luxuriant	>70%	Colourless
Staphylococcus aureus (25923)	10 ³ - 2 x 10 ³	None -poor	<20%	Colourless

Key : * = with metallic sheen

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 days.

Further Reading

1. Levine M., 1918, J. Infect. Dis., 23:43.
2. Levine M., 1921, Bull. 62, Iowa State College Engr. Exp. Station.
3. Weld J. T., 1952, Arch. Dermat. Syph., 66:691.
4. Weld J. T., 1953, Arch. Dermat. Syph., 67(5):433.

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
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents. Do not use the products if it fails to meet specifications for identity and performs parameters.