

## TMV 371 – EMB AGAR, LEVINE (VEG.)

### INTENDED USE

For isolation, enumeration and differentiation of members of Enterobacteriaceae from pharma, dairy & food products.

### PRODUCT SUMMARY AND EXPLANATION

This medium is prepared by using Veg peptone in place of peptic digest of animal tissue which makes the medium free from BSE/TSE risks. EMB Agar (Veg), Levine is the modification of Levine EMB Agar which was developed by Levine and is used for the differentiation of *Escherichia coli* and *Enterobacter aerogenes* and also for the rapid identification of *Candida albicans*.

### COMPOSITION

Ingredients	Gms / Ltr
Veg peptone	10.00
Dipotassium phosphate	2.00
Lactose	10.00
Eosin -Y	0.4
Methylene blue	0.065
Agar	15.00

### PRINCIPLE

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 Veg 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. 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 variable.

### INSTRUCTION FOR USE

- Dissolve the 37.5 grams in 1000 ml distilled water.
- 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 photo oxidation.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light purple coloured, homogeneous, free flowing powder, may contain upto a large amount of minute to small dark red purple particles.
Appearance of prepared medium	: Reddish purple coloured slightly opalescent gel with greenish cast and finely dispersed precipitate, forms in petri plates.
pH (at 25°C)	: 7.1 ± 0.2

## INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of the colony	Incubation Temperature	Incubation Period
<i>Candida albicans</i>	10231	50-100	Good-Luxuriant	$\geq 50\%$	Colourless	35-37°C	24 - 48 Hours
<i>Enterobacter aerogenes</i>	13048	50-100	Good	40-50%	Pink red	35-37°C	24 - 48 Hours
<i>Enterococcus faecalis</i>	29212	50-100	Inhibited	0%	-	35-37°C	24 - 48 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	$\geq 70\%$	Blue- black	35-37°C	24 - 48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Luxuriant	$\geq 70\%$	Colourless	35-37°C	24 - 48 Hours
<i>Saccharomyces cerevisiae</i>	9763	50-100	None-poor	0-10%	Cream	35-37°C	24 - 48 Hours
<i>Salmonella Serotype Typhimurium</i>	14028	50-100	Luxuriant	$\geq 70\%$	Colourless	35-37°C	24 - 48 Hours
<i>Staphylococcus aureus</i>	25923	50-100	None-poor	0-10%	Colourless	35-37°C	24 - 48 Hours

## PACKAGING:

In pack size of 100 gm and 500 gm bottles.

## STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

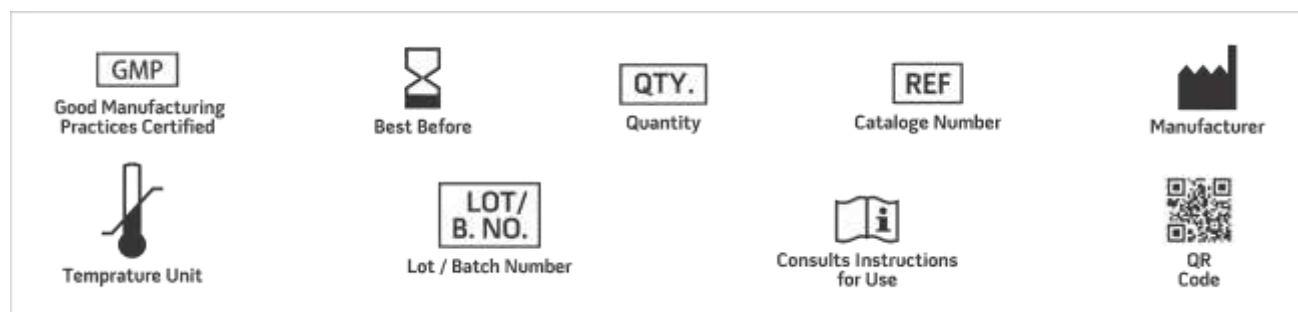


## DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

## REFERENCES

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.



**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
**Revision: 08 Nov., 2019**