

## TMH 117 - VIOLET RED BILE GLUCOSE AGAR (as per USP/BP/EP/JP/IP)

### INTENDED USE

For detection and enumeration of Enterobacteriaceae especially subculturing of bile tolerant gram negative bacteria from pharmaceutical products in accordance with microbial limit test.

### PRODUCT SUMMARY AND EXPLANATION

Violet Red Bile Glucose Agar is a selective medium recommended for detection and enumeration of Enterobacteriaceae especially the bile tolerant gram negative bacteria in accordance with the microbial limit testing by harmonized methodology of USP/EP/BP/JP/IP from non-sterile products and pharmaceutical preparations. This medium is a modification of the Violet Red Bile Agar and the MacConkey Agar as described by Mossel et al. The addition of glucose to the Violet Red Bile Agar enhances both the growth of the most fastidious enterobacteria and the recovery of those having suffered from adverse conditions.

### COMPOSITION

Ingredients	Gms / Ltr
Agar	15.00
Glucose	10.000
Pancreatic digest of gelatin	7.000
Sodium chloride	5.000
Yeast Extract	3.000
Bile salt mixture	1.500
Neutral red	0.030
Crystal Violet	0.002

### PRINCIPLE

Pancreatic digest of gelatin and yeast extract provide nitrogenous, carbonaceous compounds, long chain amino acids, vitamins and other nutrients essential for bacterial metabolism. This media is selective due to presence of the inhibitors for bile salts positive organisms especially Staphylococci. Neutral red indicator helps to detect glucose fermentation. Enterobacteriaceae, such as *Escherichia coli* and *Salmonella* spp., are able to ferment glucose and this results in production of acid and a decrease in pH that is indicated by neutral red which causes growth of the bacteria as pink colonies. Enough acid production will cause the precipitation of bile salts resulting in bile precipitate or halo around dextrose fermenting bacteria. Non-glucose fermenting bile tolerant bacteria such as *Pseudomonas aeruginosa* grow but remain colorless with no bile precipitate. Bile salts and crystal violet act as selective agents inhibiting many Gram-positive bacteria. Sodium chloride maintains the osmotic equilibrium in the medium and agar acts as a solidifying agent.

### INSTRUCTION FOR USE

- Dissolve 41.53 grams of the medium in 1000 ml distilled water.
- Gently heat to boiling with gentle swirling and dissolve the medium completely. Do not autoclave.
- Cool to 45 - 50°C.
- Mix well and pour into sterile Petri

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Dehydrated powder** : Cream to yellow colour, homogeneous free flowing powder  
**Appearance of Prepared medium** : Light yellow colour, clear to slightly opalescent gel



pH (at 25°C) : 7.4±0.2

## INTERPRETATION

Culture characteristics observed after Incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Pink-Red with bile precipitate	≥50%	30 - 35°C.	18-24 Hours
<i>Escherichia coli</i>	8739	50-100	Luxuriant	Pink-Red with bile precipitate	≥50%	30 - 35°C.	18-24 Hours
<i>#Klebsiella aerogenes</i>	13048	50-100	Luxuriant	Pink-Red	≥50%	30 - 35°C.	18-24 Hours
<i>Salmonella</i> Typhimurium	14028	50-100	Luxuriant	Pink- W or W/O bile precipitate	≥50%	30 - 35°C.	18-24 Hours
<i>Salmonella enteritidis</i>	13076	50-100	Luxuriant	Pink- W or W/O bile precipitate	≥50%	30 - 35°C.	18-24 Hours
<i>Staphylococcus aureus</i>	25923	≥1000	Inhibited	-	0%	30 - 35°C.	≥24Hours
<i>Staphylococcus aureus</i>	6538	≥1000	Inhibited	-	0%	30 - 35°C.	≥24Hours

#Formerly known as *Enterobacter aerogenes*

## PACKAGING

In 100 & 500 gm packaging size.

## STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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 powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.










## DISPOSAL

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

## REFERENCES

1. British Pharmacopoeia, 2017, The Stationery office British Pharmacopoeia
2. European Pharmacopoeia, 2016, European Dept. for the quality of Medicines.
3. Japanese Pharmacopoeia, 2016. Revision :03 / 2019 7
4. Indian Pharmacopoeia, 2018 Ministry of Health and Family Welfare, Govt. of India.
5. The United States Pharmacopoeia, 2019 The United States Pharmacopoeial Convention. Rockville, MD.
6. Mossel, D.A.A. Media for Enterobacteriaceae (1985) International Journal of Food Microbiology, 2 (1- 2), pp. 27-32.



 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

**\*For professional use only.**

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