



Violet Red Bile Agar w/ Glucose and Lactose

M1684

Violet Red Bile Agar w/ Glucose and Lactose is recommended for selective isolation and enumeration of coli-aerogenes bacteria in water, milk, and other dairy food products.

Composition**

| Ingredients | Gms / Litre |
|--------------------------------|-------------|
| Peptic digest of animal tissue | 7.000 |
| Yeast extract | 3.000 |
| Sodium chloride | 5.000 |
| Bile salts mixture | 1.500 |
| Glucose | 10.000 |
| Lactose | 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

Directions

Suspend 48.53 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Violet Red Bile Agar w/ Glucose and Lactose is a selective medium recommended for detection of *Enterobacteriaceae* species. Mossel et al (1,2,3) added glucose to the medium and observed an improved detection of coliforms. Incubation can be carried out at different temperatures and incubation time depending upon the group of *Enterobacteriaceae* to be recovered (4).

Peptic digest of animal tissue and yeast extract provide nitrogenous compounds and other nutrients essential for bacterial metabolism. This media is selective due to presence of the inhibitors; bile salts mixture and crystal violet. Crystal violet inhibits gram-positive organisms especially staphylococci. Neutral red indicator helps to detect lactose and glucose fermentation. Lactose and glucose fermenting strains grow as red or pink coloured colonies and may be surrounded by a zone of acid precipitated bile. Sodium chloride maintains the osmotic equilibrium in the medium The red colour is due to absorption of neutral red and a subsequent colour change of the dye when the pH of medium falls below 6.8.

Quality Control

Appearance

Light yellow to pink 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 4.85% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Microbial Load

0%

Cultural Response

M1684: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours .

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

Storage and Shelf Life

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

Reference

- 1.Mossel D.A.A., Mengerink W.H.J. & Scholts H.H., 1962, J. Bacteriol, 84 : 381.
- 2.Mossel D.A.A. et al, 1978, Lab. practice, 27 No. 12 : 1049
- 3.Mossel D.A.A. et al, 1979, Food Protect., 42 : 470.
- 4.Mossel D.A.A. et al, 1986, J. Appl. Bact., 60 : 289

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