

## Violet Red Bile Glucose Agar IP (Medium 6)

### Intended Use

Violet Red Bile Glucose Agar IP (Medium 6) is used for detecting and enumerating *Enterobacteriaceae* in accordance with IP.

### Summary

Violet Red Bile Glucose Agar is a modification of Violet Red Bile Agar. Mossel *et al.*, modified lactose containing violet red bile agar by adding glucose. Further work by Mossel *et al.*, showed that the lactose could be omitted resulting in the formulation of Violet Red Bile Glucose Agar. In media glucose is fermented by all members of the *Enterobacteriaceae* thus Violet Red Bile Glucose Agar (VRBGA) gives a presumptive *Enterobacteriaceae* count.

### Principle

Pancreatic digest of gelatin and yeast extract supply nutrients, amino acids, carbon compounds, vitamin B complex, minerals and trace elements. Dextrose monohydrate is the energy source. Bile salts and crystal violet inhibit Gram-positive bacteria. Neutral red is pH indicator. Agar is the solidifying agent.

### Formula\*

| Ingredients                  | g/L       |
|------------------------------|-----------|
| Yeast Extract                | 3.0       |
| Pancreatic Digest of Gelatin | 7.0       |
| Bile Salts                   | 1.5       |
| Sodium Chloride              | 5.0       |
| Dextrose Monohydrate         | 10.0      |
| Neutral Red                  | 0.03      |
| Crystal Violet               | 0.002     |
| Agar                         | 15.0      |
| Final pH (at 25°C)           | 7.4 ± 0.2 |

\*Adjusted to suit performance parameters.

### Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

### Type of Specimen

Food and Dairy samples.

### Specimen Collection and Handling

Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

### Directions

1. Suspend 40.62 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely.
4. DO NOT AUTOCLAVE.

### Quality Control

**Dehydrated Appearance:** Light yellow to pinkish beige coloured, homogeneous, free flowing powder.

**Prepared Appearance:** Light pinkish purple coloured, clear to slightly opalescent gel forms in petridishes.

**Growth Promotion Test:** Growth promotion is carried out in accordance with the method of IP and growth is observed after an incubation at 30°C-35°C for 18 to 24 hours.

**Growth Promoting Properties:** The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating  $\leq 100$  cfu of appropriate microorganism at 30°C-35°C for 18 hours.

**Indicative Properties:** The test results observed are within the specified temperature and time, inoculating  $\leq 100$  cfu of appropriate microorganism.

**Inhibitory Properties:** No growth of the test microorganism occurs for the specified temperature and not less than the longest period of the time specified, inoculating  $> 100$  cfu of the appropriate microorganism at 30°C-35°C for  $\geq 24$  hours.

| Organism (ATCC)                      | Growth | Colour of Colony                  |
|--------------------------------------|--------|-----------------------------------|
| <i>Escherichia coli</i> (8739)       | Good   | Pinkish red with bile precipitate |
| <i>Pseudomonas aeruginosa</i> (9027) | Good   | Pink                              |

#### Inhibitory

|  |           |   |
|--|-----------|---|
| <i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538) | Inhibited | - |
|--|-----------|---|

**Note:** For Good growth - Growth obtained on test media should not differ by a factor greater than 2 from calculated value for a standardized inoculum.

For inhibition no growth of test microorganism should occur.

#### Interpretation of Results

1. *Enterobacteriaceae* ferment glucose and produce red-pink colonies.
2. Count all developing red-pink colonies.

#### Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

#### Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

#### Reference

1. Mossel, Elederink, Koopmans and Van Rossem. 1979.J. Food Protect.42:470.
2. F.P. Downes Keith Ito (ed.) 2001, Compendium of Methods for The Microbiological Examination of Foods, 4<sup>th</sup> edition, APHA.
3. Indian Pharmacopoeia, 2018, Ministry of Health and Family Welfare, Government of India.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

#### Product Presentation:

| Cat. No.     | Product Description      | Pack Size |
|--------------|--------------------------|-----------|
| 201220050500 | Dehydrated Culture Media | 500 g     |

#### Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.

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