

MR-VP Broth (Glucose Phosphate Broth)

LQ082

For performance of Methyl Red and Voges Proskauer tests in differentiation of coli-aerogenes group.

Composition**

Ingredients	Gms / Litre
Buffered peptone	7.000
Dextrose	5.000
Dipotassium phosphate	5.000
Final pH (at 25°C)	6.9±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Label the ready to use LQ082 bottle. Inoculate the sample and Incubate at specified temperature .

Principle And Interpretation

Ready prepared MR-VP broth can be used for studying biochemical tests viz. MR and VP tests to differentiate amongst coli-aerogenes group. This medium contains buffered peptone water, which supports growth of organisms. Dextrose serves as immediate carbon source. On growing the pure culture in the test medium after 18-24 hours the cultures are tested for MR and VP tests. MR test is performed by adding Methyl Red indicator (I007). Methyl red is a pH indicator, which determines the pH when an organism utilizes glucose. On addition of one drop of methyl red indicator (I007) at the end of the period of incubation, if the colour changes to distinct red it indicates positive test. Whereas if the reagent turns yellow or yellowish orange, it indicates negative test. VP test detects ability of the organism to produce a neutral end product acetyl methyl carbinol (acetoin) from glucose utilization. This test is done by adding 1-2 drops of Barritt Reagent A (R029) and 1-2 drops of Barritt Reagent B (R030). A positive test is indicated by pinkish red colour within 2-5 minutes. No change in colour indicates negative test.

Quality Control

Appearance

Sterile clear MR-VP Broth in bottles.

Colour

Light yellow coloured clear solution.

Quantity of Medium

5ml of medium in bottles.

Reaction

6.70- 7.10

Sterility test

Passes release criteria

Cultural response

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

Organism	Growth	VP test	MR test
<i>Escherichia coli</i> ATCC 25922	Luxuriant	Negative reaction, no colour change	Positive reaction, bright red colour
<i>Enterobacter aerogenes</i> ATCC 13048	Luxuriant	Positive reaction, eosin pink/red colour	Negative reaction, yellow colour
<i>Klebsiella pneumoniae</i> ATCC 23357	Luxuriant	Positive reaction, eosin pink/red colour	Negative reaction, yellow colour

Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label.

Reference

1. Clark and Lubs, 1915, J. Inf. Dis., 17 : 160. 2. Voges and Proskauer, 1898, Zeit, Hyg., 28 : 20. 3. MacFaddin, J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore. 4. International Organization for Standardization (ISO), 1993, Draft ISO/DIS 6597. 5. Vaughn, Mitchell and Levine, 1939, J. Am. Water Works Association, 31:993. 6. Kallas, Chinn and Coulter, 1931, J. Bact., 22 : 125. 7. Werkman, 1930, J. Bact., 20 : 121. 8. O'Meara, 1931, J. Path. Bacteriol., 34 : 401. 9. Levine, Epstein and Voughn, 1934, Am. J. of Publ. Health, 24 : 505. 10. Barritt, 1936, J. Path. Bacteriol., 42 : 441.



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