B1485	MR VP MEDIUM (GLUCOSE PHOSPHATE BROTH)
Formula	
Ingredients:	**gms/lit.**
Peptone	7.00
Dextrose	5.00
Dipotassium phosphate	5.00
Final pH (at 25°C): 6.9 + 0.2	
Directions:	
Suspend 17 grams in 1000 ml of distilled water. Heat if necessary to dissolve the medium completely. Distribute in test tubes in 10 ml amounts and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.	
Principle:	
MR–VP Medium contains peptone as a carbon and nitrogen source for general growth requirements. Dextrose is a fermentable carbohydrate. Members of the Enterobacteriaceae convert dextrose to pyruvate by the Embden – Meyerhof pathway. Some bacteria metabolize pyruvate by the mixed acid pathway and produce acidic end products (pH < 4.4), such as lactic, acetic and formic acids. Other bacteria metabolize pyruvate by the butylenes glycol pathway and produce neutral end products (pH > 6.0), one of which is acetoin (acetylmethylcarbinol). In the MR test, the pH indicator methyl red detects acidic end products. In the VP test, acetoin is oxidized in the presence of oxygen and potassium hydroxide (KOH) to diacetyl, which produces a red colour.	

QC Tests – (I)Dehydrated Medium				
	Colour:	Cream to yellow		
	Appearance:	Homogeneous Free Flowing powder		
(II)Rehydrated medium				
	pH (post autoclaving/heating):	6.9 ± 0.2		
	Colour (post autoclaving/heating):	Light yellow		
	Clarity (post autoclaving/heating):	Clear		
(III) Q.C. Test Microbiological				
	Cultural characteristics observed after 18-48 hours at 30-32°C.			
	MICROORGANISM (ATCC)	GROWTH	MR TEST	VP TEST
	Enterobacter aerogenes (13048)	Luxuriant	Negative reaction	Positive reaction, eosin pink / red colour within 2-5 minutes
	Escherichia coli (25922)	Luxuriant	Positive reaction, bright red colour	Negative reaction
	Klebsiella pneumoniae (23357)	Luxuriant	Negative reaction	Positive reaction, eosin pink / red colour within 2-5 minutes

Precautions :	1. For Laboratory Use.
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.

Refer disclaimer Overleaf

Limitations :	1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.				
	2. Results of the MR and VP tests need to be used in conjunction with other biochemical tests of differentiate genus and species within the Enterobacteriaceae.				
	3. A precipitate may form in the potassium hydroxide reagent solution. This precipitate has not been shown to reduce the effectiveness of the reagent.				
	4. Most members of the family Enterobacteriaceae give either a positive MR test or a positive VP test. However, certain organisms such as Hafnia alvei and Proteus mirabilis may give a positive result for both tests.				
	5. Incubation time for the Methyl Red test cannot be shortened by increasing the glucose concentration in the medium or by heavily inoculating the broth.				
	6. Incubate MR – negative tests for more than 48 hours and test again.				
	7. Read the VP test at 48 hours. Increased incubation may produce acid conditions in the broth that will interfere with reading the results.				
	8. VP reagents must be added in the order and the amounts specified or a week – positive or false – negative reaction may occur. A weak – positive reaction may be masked by a copper – like colour which may form due to the reaction of KOH and α – naphthol.				
	9. Read the VP test within 1 hour of adding the reagents. The KOH and α – naphthol may react to form a copper – like colour, causing a potential false – positive interpretation.				
	10. Due to the possible presence of acetoin, diacetyl or related substances in certain raw materials, the use of media low in these substances (such as MR-VP Medium) is recommended for this test.				
Use:	For the performance of the Methyl Red and Voges-Proskauer tests in differentiation of the coli-aerogenes group, recommended by ISO 6579:2002.				
Storage:	Dehydrated medium- below 30°C Prepared medium– Between 2 to 8°C.				
Packing:	500 gm. bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B1485	17g/l	29.411L	6.9 ± 0.2	NIL	121^0C / 15 minutes

Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related BIOMARKLABORATORIES publications.
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