B543	GLUCOSE PHOSPHATE BROTH
Formula	
Ingredients :	**gms/lit.**
Buffered 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 Buffered Peptone as a carbon and nitrogen source for general growth requirements. Dextrose is a fermentable carbohydrate. Members of the Enterobacteriaceae convert glucose 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 light yellow		
	Appearance :	Homogeneous Free Flowing powder		
(II)Rehydrated medium				
	pH (post autoclaving/heating) :	6.9 ± 0.2		
	Colour (post autoclaving/heating) :	Light amber to light yellow		
	Clarity (post autoclaving/heating) :	Clear		
(III) Q.C. Test Microbiological				
	Cultural characteristics observed after 48 hours at 30°C.			
	MICROORGANISM (ATCC)	GROWTH	MR TEST	VP TEST
	Enterobacter aerogenes (13048)	Luxuriant	- (yellow)	+ (red)
	Escherichia coli (25922)	Luxuriant	+ (red)	- (no change)
	Klebsiella pneumoniae (23357)	Luxuriant	- (yellow)	+ (red)

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

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 performance of Methyl Red test and Voges Proskauer test in differentiation of coli-aerogenes group.				
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
B543	17g/l	29.41 L	6.9 ± 0.2	Nil	121^{0}C / 15 minutes