

PHENOL RED DEXTROSE BROTH

CAT N°: 1235

For the differentiation of bacteria based on dextrose fermentation

FORMULA IN g/l

Casein Peptone	10.00	Sodium Chloride	5.00
Dextrose	5.00	Phenol Red	0.018

Final pH 7.4 ± 0.2 at 25°C

PREPARATION

Suspend 20 grams of the medium in one liter of distilled water. If the medium is for the cultivation of anaerobes, add 0.5-1 grams of agar. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense in amounts of 5 ml into tubes with Durham gas collecting tubes for gas detection. Sterilize in autoclave at 118°C for 15 minutes. DO NOT OVERHEAT. The prepared medium should be stored at 2-8°C. The color is red-orange.

The dehydrated medium should be homogeneous, free-flowing and pink in color. If there are any physical changes, discard the medium.

USES

PHENOL RED DEXTROSE BROTH is the same as Phenol Red Broth Base (Cat. 1115) with the addition of dextrose for fermentation studies.

Casein peptone provides nitrogen, vitamins, minerals and amino acids essential for growth and allows the abundant growth of a wide variety of fastidious microorganisms. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Phenol red is the pH indicator and changes to yellow in acid conditions as a result of bacterial fermentation. Durham tubes trap any gases produced during fermentation. Dextrose is the fermentable carbohydrate providing carbon and energy. Vera recommended using Casein peptone in fermentation test media since she found that it could be used with the pH indicator Phenol red in fermentation tests with a high degree of accuracy.

Inoculate tubes with test organisms and incubate at 35 ± 2°C for 18 - 48 hours. Observe for color change. The appearance of a yellow color is the indication of fermentation, with or without gas production.

Control tubes of the uninoculated medium should be run parallel with inoculated tubes. Tubes should be examined frequently because different carbohydrates are utilized at variable speeds.

For anaerobes, the medium should be used on the day of preparation. If not, the medium must be heated and cooled before use.

MICROBIOLOGICAL TEST

The following results were obtained from type cultures in the performance of the medium after incubation at a temperature of 35± 2°C and observed after 18-48 hours.

Microorganisms	Glucose	
	Acid	Gas
<i>Escherichia coli</i> ATCC 25922	+	+
<i>Proteus vulgaris</i> ATCC 6380	+	+
<i>Salmonella thyphimurium</i> ATCC 14028	+	+
<i>Alcaligenes faecalis</i> ATCC 8750	-	-

BIBLIOGRAPHY

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Association of Official Analytical Chemists. 1995 official methods of analysis of AOAC Arlington, VA:

Baron EJ LR Peterson and S.M. Finegold 1994. Bailey & Scott's diagnostic microbiology, 9th edition. Mosby-Year Book, Inc. St. Louis, MO.

Murray, PR., E.J. Baron M.A. Pfaller F.C. Tenover and R.H. Tenover (ed) 1995. Manual of clinical microbiology, 6th edition. American Society for Microbiology, Washington DC.

STORAGE

Once opened keep powdered medium closed to avoid hydration.

