
PHENOL RED BROTH BASE

INTENDED USE

Remel Phenol Red Broth Base is a liquid medium recommended for use in qualitative procedures for the determination of fermentation reactions of bacteria.

SUMMARY AND EXPLANATION

The fermentation properties of bacteria are valuable criteria in their identification.¹ The ability of bacteria to ferment a specific carbohydrate contained in a basal medium may be used to differentiate between genera and species.² Vera recommended using casein peptone with phenol red as the pH indicator in fermentation test media.³ Phenol Red Broth Base is recommended by the AOAC International (AOAC) and the American Public Health Association (APHA).⁴⁻⁶

PRINCIPLE

Phenol Red Broth Base is a complete basal medium prepared with phenol red as an indicator of acid production. A color change from red-orange to yellow occurs when acid is produced as a result of carbohydrate metabolism. This medium may be used for many species of bacteria due to the high growth-promoting qualities of casein peptone. Carbohydrates may be added to the broth base in a final concentration of 1%. Sodium chloride supplies essential electrolytes and maintains osmotic equilibrium. A Phenol Red Broth Base Control tube is used as a negative control for fermentation studies. A Durham tube may be inserted in a carbohydrate tube for the detection of gas production.

REAGENTS (CLASSICAL FORMULAE)*

Casein Peptone.....	10.0 g	Phenol Red.....	18.0 mg
Sodium Chloride.....	5.0 g	Demineralized Water.....	1000.0 ml

pH 7.4 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 15 g of medium in 1000 ml of demineralized water.
2. Add carbohydrates to desired concentration and adjust pH if necessary.
3. Dispense into suitable tubes. Insert Durham tubes when gas production is to be recorded.
4. Sterilize by autoclaving at 121°C for 15 minutes or following established laboratory procedures.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

INTERPRETATION OF THE TEST

Fermentation: (acid production)

Positive Test - Yellow color development (acid production)

Negative Test - Red-orange color

Gas Production:

Positive Test - A bubble or bubbles in the Durham tube

Negative Test - No bubble(s) in the Durham tube

QUALITY CONTROL

Each lot number of Phenol Red Broth Base has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. Control organisms should be selected that demonstrate a positive and negative reaction for each carbohydrate tested. If aberrant quality control results are noted, sample results should not be reported.

BIBLIOGRAPHY

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Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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