

Phenylalanine Agar

Used for the differentiation of enteric bacilli which deaminate phenylalanine to phenyl pyruvic acid

Formula in grams per liter:

D-L Phenylalanine	2,00	Yeast Extract	3,00
Sodium Chloride	5,00	Sodium Phosphate	1,00
Bacteriological Agar	12,00		

Final pH: 7,3 ± 0,2 at 25 °C

Preparation:

Suspend 23 grams of the medium in one liter of distilled water. Mix well. Heat with frequent agitation and boil for one minute. Dispense and sterilize in autoclave at 121°C (15 lbs. sp.) for 10 minutes. Allow the tubes to solidify in a slanted position.

Uses:

Phenylalanine Agar is used for differentiating *Proteus* and *Providencia* species from other Enterobacteriaceae, based on deamination of phenylalanine. Battiaux, Osteaux, Fresnoy and Meriametz, developed a method to differentiate members of the *Proteus* and *Providencia* groups from other Enterobacteriaceae, based on the ability of *Proteus* and *Providencia* to deaminate phenylalanine to phenylpyruvic acid by enzymatic activity.

Proteus and *Providencia* are the only enterobacteria which have a positive reaction, the others are negative.

To differentiate *Proteus* and *Providencia* seed heavily the suspicious organisms in Urea Agar Base (Christensen), or Urea Broth. *Proteus* hydrolyzes the urea. The *Providencia* is negative for urease production.

Inoculate heavily with the sample organism. Incubate for 18 to 24 hours at 35°C. Add 4 to 5 drops of 10% ferric chloride. The immediate appearance of an intense green color (1-5 minutes) indicates the presence of phenylpyruvic acid.

Microbiological Tests:

Microorganisms	Growth	Phenyl pyruvic Acid (deam.)
<i>Escherichia coli</i> ATCC 25922	Satisfactory	-
<i>Enterobacter aerogenes</i> ATCC 13048	Satisfactory	-
<i>Proteus vulgaris</i> ATCC 13315	Satisfactory	+
<i>Providencia</i> spp.	Satisfactory	+

