Phenylalanine Agar

Cat. 1040

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

Practical information

Aplications	Categories
Differentiation	Enterobacteria

Industry: Food

CE IVD

Principles and uses

Phenylalanine Agar is a solid medium used for differentiating Proteus, Providencia and Morganella species from other Enterobacteriaceae, based on the deamination of phenylalanine to phenylpyruvic acid by enzymatic activity. The formula is prepared according to Ewing et al. (1957). Some strains of Enterobacter and a few non-fermenting Gram-negative bacilli are also capable of deaminating phenylalanine.

DL-Phenylalanine is deaminated to phenylpyruvic acid. Yeast extract provides vitamins, particularly of the B-group, and other nutrients for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Sodium phosphate is the buffer and Bacteriological agar is the solidifying agent.

Formula in g/L

Bacteriological agar	12	DL-Phenylalanine	2
Sodium chloride	5	Yeast extract	3
Sodium phosphate	1		

Preparation

Suspend 23 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into tubes and sterilize in autoclave at 121 ºC for 15 minutes. Allow to cool in a slanted position.

Instructions for use

For clinical diagnosis, the type of sample is bacteria isolated from any clinical sample.
- Inoculate with the sample organism.
- Incubate for 18-24 hours at 35±2 ºC.
- Reading and interpretation of the results.

Add 4 to 5 drops of 10% ferric chloride. The immediate appearance of an intense green color (1 to 5 minutes) indicates the presence of phenylpyruvic acid.

To differentiate Proteus and Providencia, spread the suspect organisms heavily in Urea Agar Base (Christensen - Cat. 1110), or Urea Broth (Cat. 1226). Proteus hydrolyzes the urea. Providencia is negative for urease production.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine pwoder	Beige	Amber, slightly opalescent	7,3 ± 0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-24 h)

Microrganisms	Specification	Characteristic reaction
Enterobacter aerogenes ATCC 13048	Good growth	Phenyl pyruvic acid (deamination) (-)
Proteus vulgaris ATCC 13315	Good growth	Phenyl pyruvic Acid (deamination) (+)
Escherichia coli ATCC 25922	Good growth	Phenyl pyruvic acid (deamination) (-)

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

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MaFaddin, J.F. 1985. Media for isolation-cultivation-identification-maintenance of medical bacteria, vol. 1. p. 634-636. Williams & Wilkins, Baltimore, MD.