PHENYLALANINE AGAR

PAAG-00P-500

- **Principle**

Phenylalanine Agar is a differential medium used for the detection of phenylalanine deaminase activity, primarily for the identification and differentiation of certain Enterobacterales such as Proteus, Providencia and Morganella species. It is commonly employed as part of routine biochemical testing following primary isolation on selective enteric media.

The medium contains yeast extract as a source of nitrogen, carbon, vitamins and essential growth factors. Dipotassium phosphate acts as a buffering agent to maintain pH stability, while sodium chloride maintains osmotic balance. DL-phenylalanine serves as the substrate for the enzyme phenylalanine deaminase. Organisms possessing this enzyme deaminate phenylalanine to produce phenylpyruvic acid.

After incubation, the production of phenylpyruvic acid is detected by the addition of ferric chloride reagent. The ferric ions react with phenylpyruvic acid to form a green-coloured complex on the surface of the medium, indicating a positive reaction. Agar is included as the solidifying agent.

- **Regulatory compliance**

This product is manufactured under a quality management system in accordance with ISO 9001 and ISO 13485, and its formulation and quality control comply with applicable international standards, such as ISO 11133, where relevant.

- **Composition**

Ingredients	**g/L**
Yeast Extract	3.00
Dipotassium Phosphate	1.00
Sodium Chloride	5.00
Dl-Phenylalanine	2.00
Agar	15.00

- **Preparation**

Dissolve 26.00 grams in 1000 ml distilled water, boil to dissolve the medium completely and distribute aseptically in test tubes. Sterilize by autoclaving at 15 lbs. pressure (121 °C) for 15 min, cool it to 42-45 °C and allow the medium to solidify in a slanting position. Ensure complete solidification and inoculate test sample aseptically.

- **Applications and use**

Recommended for differentiating phenylalanine deaminase-producing Proteus, Providencia and Morganella species from other members of the Enterobacterales.

- **Quality control**

Solubility	w/o rests
Appearance	Fine powder
Colour of the dehydrated medium	Beige
Colour of the prepared medium	Amber
Final pH (25 °C)	7.3 ± 0.2

- **Microbiological test**

Inoculate and incubate the plates at 35±2 °C for 18-24 hours.

Microorganism	ATCC	Inoculum (CFU)	Growth	Phenylalanine deaminase
Proteus mirabilis	12453	50-100	Luxuriant	Positive (Dark Green)
Escherichia coli	25922	50-100	Luxuriant	Negative
Klebsiella aerogenes	13048	50-100	Luxuriant	Negative

- **Storage**

The product is highly hygroscopic; keep the container always closed and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Temp. Min.:2 °C Temp. Max.:25 °C.

Note: Sterilize media immediately after reconstitution.

- **Bibliography**

Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.

Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.

- **Product use limitation**

This product is developed, designed and supplied exclusively for research use only. It is not intended for diagnostic applications or drug development, and it is not suitable for administration to humans or animals.