

TECHNICAL DATA SHEET

Phenylalanine Agar

Principle

Phenylalanine agar is composed of yeast extract, dipotassium phosphate, sodium chloride, DL-phenylalanine and agar. Yeast extract provides nitrogen, carbon, vitamins and other necessary growth factors. Dipotassium is buffering agent. Sodium chloride maintain osmotic balance. DL-phenylalanine is substrate for Phenylalanine deaminase, deaminate DL-phenylalanine to phenylpyruvic acid. The synthesized phenylpyruvic acid is detected by addition of 3-5 drops of a 10% ferric chloride reagent (or a 12% aqueous ferric chloride solution acidified with 2.5 mL of concentrated HCl per 100 mL of reagent). The ferric chloride reacts with phenylpyruvic acid to form green color complex. Agar is solidifying agent.

Use: For differentiation of *Proteus* & *Providencia* from other members of Enterobacteriaceae based on their ability to form phenyl pyruvic acid from phenylalanine.

Contents*

Ingredients	Gram/Liter
Yeast Extract	3.00
Dipotassium Phosphate	1.00
Sodium Chloride	5.00
DL-Phenylalanine	2.00
Agar	15.00
pH at 25°C	7.3 ±0.2

* Formula adjusted for optimum performance and parameters

Directions: 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.

Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples etc

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Off white colored free flowing, homogeneous powder
Reaction of 2.3% solution	6.1 $\pm$ 0.2 at 25 °C
pH	7.10- 7.50
Gelling	Firm comparable with 1.2% agar gel
Color and clarity of ready medium	Light amber colored slightly opalescent gel
Growth Promotion properties	Best at $\leq$ 100 CFU at 35 $\pm$ 2°C for 18-72 h
Indicative properties	Optimum at $\leq$ 100 CFU at 35 $\pm$ 2°C for 18-48 h
Negative control	Performed using sterile distilled water

Different Microbial Response: Prepare media as per the label directions. Inoculate and incubate the plates at 35 $\pm$ 2.0°C for 18-24 hours.

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

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times 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. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). *Handbook of media for environmental microbiology*. CRC press.
2. *Difco Manual* (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.

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