

Phenylalanine Agar Slant**(M1680)**

Recommended for the differentiation of *Proteus* and *Providencia* group of organisms from other members of Enterobacteriaceae on the basis of their ability to form phenyl pyruvic acid from phenylalanine.

Composition

Ingredients	g/ L
Yeast extract	3.000
Sodium chloride	5.000
DL-Phenylalanine	2.000
Disodium hydrogen phosphate	1.000
Agar	15.000

Description

The ability of *Proteus* species to convert phenylalanine to phenylpyruvic acid is an important reaction in the differentiation of Enterobacteriaceae. In 1950, Henriksen reported *Proteus* species were able to convert phenylalanine to phenylpyruvic acid.

Yeast extract supplies B-complex vitamins and other nutrients to support the growth of bacteria. Sodium chloride is a source of essential electrolytes and maintains osmotic equilibrium. The substrate in this medium is phenylalanine which undergoes oxidative deamination, catalyzed by an amino acid oxidase enzyme to yield the alpha keto acid, phenylpyruvic acid. Ferric Chloride (10%) added to Phenylalanine Agar after incubation serves as a chelating agent, which combines with phenylpyruvic acid to form a green color. Interpret the results within 5 minutes upon addition of reagent as the green colour fades quickly.

Type of specimen

Isolated microorganisms

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines. After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture.

Limitations

1. Some organism may show poor growth due to nutritional variation.
2. Other biochemical tests must be carried out in conjunction for confirmation.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality control**Physical/Chemical control**

Color : Light amber pH: 7.10-7.50

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 12-16 hours.

Microbiological activity

Organisms	Growth	Phenylalanine deaminase
Escherichia coli ATCC 25922	Good growth	negative reaction
Klebsiella pneumonia ATCC 700603	Good growth	negative reaction
Proteus mirabilis ATCC 12453	Good growth	positive reaction, green colouration after addition of 10% ferric chloride

Storage and Shelf Life ,

Store between 2-25°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Ewing W. H., Davis B. R. and Reavis R. W., 1957, Public Health Lab., 15:153.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1
4. Quality Assurance for Commercially Prepared Microbiological Culture Media, M22. Clinical and Laboratory Standards Institute (CLSI - formerly NCCLS).