TM 260 – PHENYLALANINE AGAR

INTENDED USE

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

PRODUCT SUMMARY AND EXPLANATION

The ability of Proteus species to convert phenylalanine to phenylpyruvic acid is an important reaction in the differentiation of *Enterobacteriaceae*. Based on this criterion, Buttiaux developed Phenylalanine Agar for differentiation of Proteus and Providencia group from other members of *Enterobacteriaceae* by the ability of organism in the genera within *Proteus* to deaminate phenylalanine. Phenylalanine Agar is the modification of the medium originally developed by Ewing et al.

COMPOSITION

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

PRINCIPLE

Yeast extract in the medium supports the growth of the organisms. Sodium chloride maintains osmotic equilibrium. The phenylalanine serves as the substrate for enzymes, which are able to deaminate it to form phenylpyruvic acid. A recommended technique is to inoculate the slant surface with plenty of inoculum and incubate it for 12-16 hours. After incubation, add 0.2 ml of 10% ferric chloride solution so that the solution floods all over the growth. The addition of (0.2 ml 3-5 drops) of a 10% aqueous ferric chloride solution to the cultures following incubation results in the appearance of a light to deep green color (positive reaction) or no color change (negative reaction). In a positive reaction, any phenylpyruvic acid present will react with the ferric salt in the reagent to give a green color. Interpret the results within 5 minutes upon addition of reagent as the green colour fades quickly.

INSTRUCTION FOR USE

- Dissolve 26.0 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in tubes and Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°. Allow the tubed medium to cool in a slanting position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light amber coloured slightly opalescent gel forms in tubes in slants.
pH (at 25°C) : 7.3 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

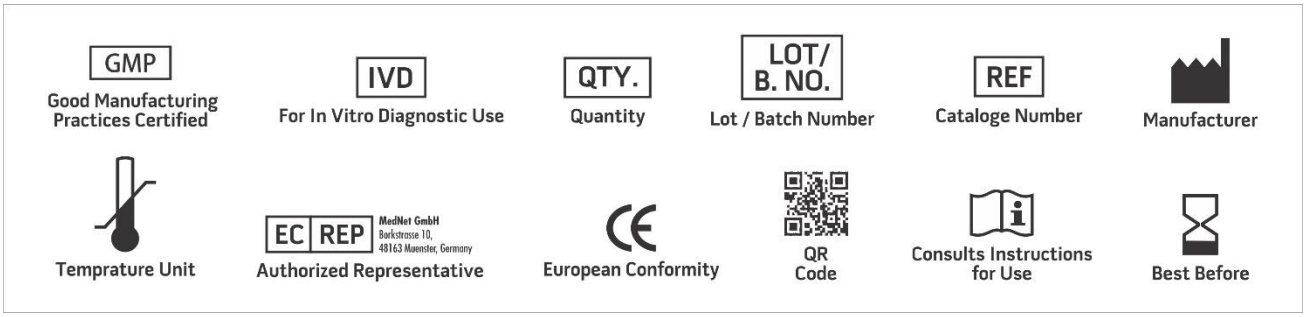
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Phenylalanine deaminase	Incubation Temperature	Incubation Period
Enterobacter aerogenes	13048	50-100	Luxuriant	Negative reaction	35-37°C	12-16 Hours
Escherichia coli	25922	50-100	Luxuriant	Negative reaction	35-37°C	12-16 Hours
Proteus mirabilis	25933	50-100	Luxuriant	Positive reaction, green colouration after addition of 10% ferric chloride	35-37°C	12-16 Hours
Providencia alcalifaciens	9886	50-100	Luxuriant	Positive reaction, green colouration after addition of 10% ferric chloride	35-37°C	12-16 Hours
Proteus vulgaris	13315	50-100	Luxuriant	Positive reaction, green colouration after addition of 10% ferric chloride	35-37°C	12-16 Hours

PACKAGING:
In pack size of 100 gm and 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Buttiaux R., Osteux R., Fresnoy R. and Moriamez J., 1954, Ann. Inst. Pasteur Lille., 87:375.
2. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams & Wilkins, Baltimore, Md.
3. Ewing W. H., Davis B. R. and Reavis R. W., 1957, Public Health Lab., 15:153.
4. Henrikson S. D., 1950, J. Bacteriol., 60:225.
5. Singer J. and Volcani B. E., 1955, J. Bacteriol., 69:303.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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