

## CM 21398 – PHENYLALANINE AGAR

### INTENDED USE

For differentiation of *Proteus* & *Providencia* from other members of Enterobacteriaceae on the basis of their ability to form phenylpyruvic 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 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

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



**GMP**  
Good Manufacturing  
Practices Certified

**IVD**  
For In Vitro Diagnostic Use

**QTY.**  
Quantity

**LOT/  
B. NO.**  
Lot / Batch Number

**REF**  
Catalogue Number

  
Manufacturer

  
Temperature Unit

**EC REP** MedNet GmbH  
Buckhorn 10,  
48163 Münster, Germany  
Authorized Representative

  
European Conformity

  
QR  
Code

  
Consults Instructions  
for Use

  
Best Before

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

\*For LabUse Only