



Reference : 01-083

Scharlau Microbiology - Technical data sheet

Product :
PHENYLALANINE AGAR (PPA)

Also known as

PA Medium

Specification

Culture medium for enterobacteria, according to the Ewing *et al.* formulation.

Formula * in g/L

Yeast extract..... 3,0
 DL-Phenylalanine.....2,0
 Di-sodium phosphate..... 1,0
 Sodium chloride..... 5,0
 Agar..... 15,0

Final pH 7,3 ±0,2 at 25 °C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 26 g of powder in 1 L of distilled water and bring to the boil. Dispense in tubes or flasks and sterilize in the autoclave at 121°C for 15 minutes.

Description

This formulation corresponds to the solid form, proposed by Ewing *et al.* which is a modification of the medium developed by Buttiaux *et al.* achieving a long lasting green colour change that confirms a positive reaction.

The capacity to deaminate Phenylalanine oxidatively converting it to phenyl-pyruvic acid is a property of *Proteus spp.* differentiating them from other enterobacteria. Phenyl-pyruvic acid is revealed by the presence of a characteristic greenish colour in the medium when it reacts with iron. Nowadays, this test and the urease production test, have great importance in the taxonomy of *Proteus spp.*

Technique

Inoculate the slant surface with plenty of inoculum, and incubate for 12-16 hours at 35 ± 2°C. Add 0,2 mL of 10% ferric chloride solution so that the solution floods the growth.

Phenyl-pyruvic acid (positive test) is shown by the development of a characteristic green-blue colour on the surface, after approximately 1 minute.

Quality control

Incubation temperature: 35°C ±2,0 **Incubation time:** 18-24 h

Inoculum: Pure culture is inoculated by surface streaking

Microorganism

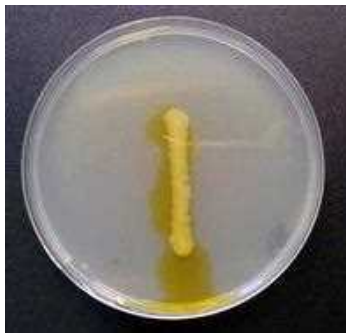
Escherichia coli ATCC® 25922
Salmonella typhimurium ATCC® 14028
Proteus mirabilis ATCC® 43071
Proteus mirabilis ATCC® 29906

Growth

Good
 Good
 Good
 Good

Remarks

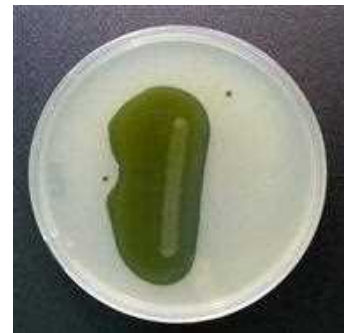
PPA (-) yellow
 PPA (-) yellow
 PPA (+) dark green
 PPA (+) dark green



Escherichia coli ATCC 25922
"Yellow reaction with 10% ferric chloride solution"



"Growth without additive"



Proteus mirabilis ATCC 43071
"Dark green reaction with 10% ferric chloride solution"



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References

- ATLAS, R.M., L.C. PARKS (1993) Handbook of Microbiological Media. CRC Press. Inc. London.
- BUTTIAUX, R., R. OSTEUX, R. FRESNOY & J. MORIAMEZ (1954) Les propriétés biochimiques du genre Proteus. Ann. Inst. Pasteur 87:357-386.
- EDWARDS and EWING (1973) Identification of Enterobacteriaceae. Burges Pub.Cod. Minneapolis. USA.
- ISENBERG, H.D. (1992) Clinical Microbiology Procedures Handbook. Vol I ASM Press Washington. DC. USA.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).
