Phenol Red Dextrose Agar

Cat. 1023

For the differentiation of bacteria based on dextrose fermentation.

Practical information

Aplications	Categories
Differentiation	Dextrose fermenters

Industry: Food

Principles and uses

Phenol Red Dextrose Agar is similar to Dextrose Agar (Cat. 1021) with the addition of Phenol red as a pH indicator. It is recommended to determine the ability of various organisms to ferment dextrose. Being a solid medium it has the advantage of allowing fermentation reactions under aerobic and anaerobic reactions.

Peptone mixture provides nitrogen, vitamins, minerals and amino acids essential for growth, and allows the abundant growth of a wide variety of fastidious microorganisms. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Dextrose is the fermentable carbohydrate providing carbon and energy. Phenol red is the pH indicator. Bacteriological agar is the solidifying agent.

Phenol Red Dextrose Agar is an excellent substrate for streptococci, as well as for other less fastidious bacteria. A yellow color indicates fermentation, as the acid production reacts with the Phenol red pH indicator. The formation of gas causes bubbles to appear at the base of the medium, which can lead to agar fragmentation.A control of Phenol Red Agar without carbohydrates should be used to control false positives.

Formula in g/L

Dextrose	10	Bacteriological agar	15
Peptone mixture	10	Phenol red	0,025
Sodium chloride	5		

Preparation

Suspend 40 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121 ºC for 15 minutes.

Instructions for use

- Inoculate the medium by stabbing into the butt. If desired, inoculate obligate anaerobic bacteria into melted medium that has been cooled to 45 ºC. Allow the agar to solidify prior to incubation.
- Incubate at 35±2 ºC for 18-48 hours (or anaerobically for 24-72 hours).
- Examine periodically for growth, acid production and gas formation.

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
Slightly opalescent	Fine powder	Pink	Red	7,4±0,2

Microbiological test

Incubation conditions: (35±2 ºC / 18-48 h).

Microrganisms	Specification	Characteristic reaction
Shigella flexneri ATCC 12022	Good growth	Colony color (+), gas production (-)

Klebsiella pneumonieae ATCC 13883	Good growth	Colony color (+), gas production (+)
Salmonella typhimurium ATCC 14028	Good growth	Colony color (+), gas production (+)
Escherichia coli ATCC 25922	Good growth	Colony color (+), gas production (+)
Proteus vulgaris ATCC 6380	Good growth	Colony color (+), gas production (+)
Alcaligenes faecalis ATCC 8750	Good growth	Colony color (-), gas production (-)

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

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