

Purple Agar Base

Purple Agar Base is recommended for the preparation of carbohydrate media used in fermentation studies for the cultural identification of pure cultures of enteric and other microorganisms.

REF: BS.1/PU01.100.0100	100 Gram	REF: BS.1/PU01.250.0250	250 Gram
REF: BS.1/PU01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Purple Agar Base is used for studying carbohydrate fermentation reactions, particularly in the identification of gram-negative enteric bacteria on addition of the desired carbohydrate (1, 2). Purple media were originally formulated by Vera (3) and further modified by addition of beef extract (4). These media are recommended by FDA (5) for fermentation studies of sugars

METHOD PRINCIPLE

Beef extract and peptone special supply the essential nutrients especially nitrogen sources to the growing organisms. Sodium chloride maintains the osmotic balance of the medium. Bromocresol purple is the pH indicator, which turns yellow at acidic pH. Gas production is evident by splitting of agar. The acid produced during the fermentation of carbohydrate causes bromocresol purple, the pH indicator to turn yellow. If the carbohydrate is not utilized or fermented, the color of the medium remains unchanged or becomes more alkaline (darker purple) due to decarboxylation of the amino acids present in the medium. It is recommended (6) to add carbohydrate in 1% concentration to avoid possible reversion reactions except glucose (dextrose). If the medium containing carbohydrate is sterilized by autoclaving, precautions should be taken to use minimum amount of heat required for sterilization to avoid hydrolysis of the carbohydrate.

MEDIA COMPOSITION

Item	Formula per liter of medium
- Peptone special	10 gm.
- Beef extract	1 gm.
- Sodium Chloride	5 gm.
- Bromocresol purple	0.02 gm.
- Agar	15 gm.

Final pH 6.8 ± 0.2 at 25°C

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

For further information, refer to the Purple agar base Material safety datasheet.

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile plates
- Incubator
- Autoclave

STORAGE AND STABILITY

BioScien Purple agar base should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

PREPARATION

Suspend 31.02 grams in 1000 ml distilled water. Add 5 - 10 grams of the carbohydrate to be tested. Heat to boiling to dissolve the medium completely. Dispense in tubes as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Alternatively sterilize the basal medium prepared using 900 ml distilled water and add 100 ml separately sterilized 5 - 10% solution of the desired carbohydrate to it.

Deterioration

The color of **BioScien** Purple agar base is Cream to greenish yellow homogeneous free flowing powder. Prepared Medium Purple coloured clear to slightly opalescent gel forms in tubes as slants clear solution in tubes. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

SPECIMEN

Clinical samples

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

PERFORMANCE CHARACTERISTICS

Oranism	Growth	Acid (without carbohydrate rate)	Gas (without carbohydrate rate)	Acid (with1% dextrose)	Gas (with1% dextrose)
<i>Escherichia coli</i> ATCC 25922	luxuriant	negative reaction, no colour change	negative reaction	positive reaction, yellow colour	positive reaction
<i>Listeria monocytogenes</i> ATCC 19112	luxuriant	negative reaction, no colour change	negative reaction	positive reaction, yellow colour (ferment ative metaboli sm)	negative reaction
<i>Neisseria meningitidis</i> ATCC 13090	Good- luxuriant	negative reaction, no colour change	negative reaction	positive reaction, yellow colour	negative reaction
<i>Staphylococcus aureus</i> ATCC 25923	luxuriant	negative reaction, no colour change	negative reaction	positive reaction, yellow colour	negative reaction

REFERENCES

1. The United States Pharmacopoeia-National Formulary (USP-NF), 2022.
2. The British Pharmacopoeia, 2022, Medicines and Healthcare products Regulatory Agency.
3. European Pharmacopoeia, 2022, 10 th volume, European Directorate for the quality of medicines & Healthcare.
4. The Japanese Pharmacopoeia, 17th edition, 2016, The Ministry of Health, Labour and welfare.
5. Indian Pharmacopoeia, 2022, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare Government of India.
6. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.

7. 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

SYMBOLS IN PRODUCT LABELLING			
	For in-vitro diagnostic use		Number of <n> test in the pack
	Batch Code/Lot number		Caution
	Catalogue Number		Do not use if package is damaged
	Temperature Limitation		Consult Instruction for use
	Expiration Date		
	Manufactured by		

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