

TECHNICAL DATA SHEET

Burkholderia Cepacia Agar Base

Principle

Burkholderia Cepacia Agar is composed of peptone, yeast extract, sodium pyruvate, potassium phosphate, disodium phosphate, bile salt, ammonium sulphate, magnesium sulphate, ammonium ferrous sulphate, phenol red, crystal violet and agar. The medium contains peptone and yeast extract which provides carbonaceous, nitrogenous compounds and other essential growth nutrients. The selectivity is provided by the incorporation of bile salts, crystal violet and antibiotics like (Polymyxin B, Gentamycin and Ticarcillin). Crystal violet, bile salts and antimicrobial agents are used as selective agents. Crystal violet and bile salts inhibits gram-positive cocci including Enterococci and Staphylococci. The antibiotics namely ticarcillin, polymyxin B and gentamycin inhibit gram-negative bacteria. *B. cepacia* metabolizes pyruvate forming alkaline end products. These end products raise the pH of the medium, leads to change colour of medium from pink orange to pink red. The medium is not only selected for *B. cepacia*, since further identification is necessary.

Use: For isolation of Burkholderia cepacia from the respiratory secretions of patients with cystic fibrosis & other specimens.

Contents*

Ingredients	Gram/Litre
Peptone	5.000
Yeast extract	4.000
Sodium pyruvate	7.000
Potassium phosphate	4.400
Disodium phosphate	1.400
Bile salts	1.500
Ammonium sulphate	1.000
Magnesium sulphate	0.200
Ammonium ferrous sulphate	0.010
Phenol red	0.020
Crystal violet	0.001
Agar	12.000
pH at 25°C	6.2 ±0.2

* Formula adjusted for optimum performance and parameters

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Directions: Dissolve 18.25 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C), cool to 45-50°C. Aseptically add polymyxin B (75000 IU), gentamicin (2.5 mg) and tecarcillin (50 mg). Mix well and distribute aseptically in petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

Specimens' types analyzed
Food samples.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	Light beige to pink colored, free-flowing, homogeneous
Reaction of 1.64% solution	6.2 ±0.2 at 25 °C
pH	6.00 – 6.40
Gelling	Firm comparable with 1.2% agar gel
Color and clarity of ready medium	Orange color, clear opalescent gel
Growth Promotion Properties	Best at ≤ 100 CFU at 32-37 °C for 24-72 h
Indicative Properties	Optimum at ≤ 100 CFU at 32-37 °C for 24-48 h
Negative control	Performed using sterile distilled water

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Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 48-72 hours. (Inoculum 50-100 CFU)

Organism	ATCC	Growth	Recovery (%)	Colony color
<i>Burkholderia cepacia</i>	25608	Luxuriant	≥ 60%	Green with pink cantered
<i>Pseudomonas aeruginosa</i>	27853	Inhibited	---	--

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.
2. The United States Pharmacopoeia, (2019). Microbiological examination of non-sterile products-tests for *Burkholderia cepacia* Complex.
3. MacDonald Gilligan, Welch, Reller and Menegus, (1994), Cystic Fibrosis Foundation, Washington, D.C. Vol. 5:1

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