

## Burkholderia cepacia Selective Agar plate

MP2089

### Intended Use:

Recommended for isolation of *Burkholderia cepacia* from the respiratory secretions of patients with cystic fibrosis and other non-clinical specimens.

### Composition\*\*

Ingredients	g / L
Casitose #	10.000
Lactose	10.000
Sucrose	10.000
Sodium chloride	5.000
Yeast extract	1.500
Phenol red	0.080
Crystal violet	0.002
Gentamicin	0.010
Vancomycin	0.0025
Polymyxin B	600000 units
Agar	14.000
Final pH ( at 25°C)	7.0±0.1

\*\*Formula adjusted, standardized to suit performance parameters

# Equivalent to Casein peptone

### Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

### Principle And Interpretation

*Burkholderia cepacia* is an important opportunistic pathogen and causes pulmonary infection among individuals with cystic fibrosis (CF). *Burkholderia cepacia* species are gram negative, rod shaped bacteria. The organism may lead to *Burkholderia cepacia* syndrome, a neutralizing pneumonia associated with fever that culminates in to a rapid and fatal clinical deterioration (1). *Burkholderia cepacia* species may cause severe infection in individuals with cystic fibrosis and immunosuppressed individuals. *B. cepacia* is difficult to isolate on routinely used laboratory media like MacConkey Agar, since *B.cepacia* is a slow grower and therefore it is usually outgrown by the faster growing *Escherichia coli*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*. *Burkholderia Cepacia* Agar is based on PC medium, which was originally devised by Gilligan (2). This medium was found to be superior to MacConkey Agar for growth of *B. cepacia*. *Burkholderia cepacia* have the potential of overcoming antimicrobial preservative systems and antiseptics, and can grow in preserved aqueous oral liquids and topical products. This medium is recommended for detection of *Burkholderia cepacia* in pharmaceutical products.

Casitose and yeast extract in the medium provides the carbonaceous, nitrogenous, long chain amino acids, vitamin B source and other essential nutrients. Crystal violet and antimicrobial agents are used as selective agents. Crystal violet and vancomycin inhibits gram-positive cocci including Enterococci and Staphylococci. The antibiotics namely polymyxin B and gentamicin inhibits gram-negative bacteria.

*B. cepacia* metabolizes pyruvate forming alkaline end products. Sucrose and Lactose are the fermentable carbohydrate. The phenol red indicator changes colour from pink orange to pink red in alkaline pH.

**Test procedure:** The sample is initially enriched in Soyabean Casein Digest Medium and then plated on *Burkholderia Cepacia* Selective Agar.

### Type of specimen

Clinical samples: Respiratory secretions

### Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4).

After use, contaminated materials must be sterilized by autoclaving before discarding.

## Warning and Precautions

In Vitro diagnostic use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations

1. Other bacteria resistant to the selective agents may grow on this media.
2. Further biochemical characterization is necessary for complete identification.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Appearance

Sterile Burkholderia cepacia Selective Agar in 90 mm disposable plates with smooth surface and absence of black particles/ cracks/bubbles

### Colour of medium

Orange coloured medium

### Quantity of medium

25 ml of medium in 90 mm disposable plates.

### pH

6.90-7.10

### Sterility Check

Passes release criteria

### Cultural Response

Cultural characteristics observed after an incubation at 30-35°C for 18-72 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony (CFU)
<i>Burkholderia cepacia</i> ATCC 25416	50-100	good-luxuriant	≥50%	greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone
<i>Burkholderia cenocepacia</i> ATCC 25608	50-100	good-luxuriant	≥50%	greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone
<i>Burkholderia cenocepacia</i> ATCC BAA-245	50-100	good-luxuriant	≥50%	greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone
<i>Burkholderia multivorans</i> ATCC BAA-247	50-100	good-luxuriant	≥50%	greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone
<sup>^</sup> <i>Pseudomonas</i> <i>paraeruginosa</i> ATCC 9027 (00026*)	≥10 <sup>3</sup>	inhibited	0%	
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC 6538 (00032*)	≥10 <sup>3</sup>	inhibited	0%	

Key: (\*) corresponding WDCM numbers      ^ Formerly known as *Pseudomonas aeruginosa*

## Storage and Shelf Life

On receipt store between 20-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

## Reference

1. Whitby P. W., 1998, J. Clin. Microbiol., 36:1642 1645.
2. Gilligar, Gage, Bradshaw, schidlow and Deciscco, 1985, J. Clin. Microbiol., 22:5.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. 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 Edition. Vol. 1.

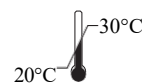
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HiMedia Laboratories Pvt. Limited,  
Plot No.C-40, Road No.21Y,  
MIDC, Wagle Industrial Area,  
Thane (W) -400604, MS, India



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