## Burkholderia Cepacia Selective Agar USP Plate (Triple Layer Pack, Gamma-Irradiated)

### Intended Use

Burkholderia cepacia Selective Agar USP Plate is a medium used for the selective detection and isolation of *Burkholderia cepacia* complex from non-sterile and aqueous pharmaceutical and cosmetic products in compliance with USP.

## Summary

Burkholderia cepacia Selective Agar is an opportunistic human pathogen that most often causes pneumonia in immunocompromised individuals with underlying lung disease (Such as cystic fibrosis or chronic granulomatous disease). *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*. Burkhloderia Cepacia Selective Agar is based on PC medium, which was originally devised by Gilligan. This medium was found to be superior to MacConkey Agar for growth of *B. cepacia*. The medium is made selective for *B. cepacia* by the incorporation of bile salts, crystal violet and antibiotics. The antibiotics included are Polymyxin B, Gentamycin, Vancomycin in the form of freeze-dried supplement.

## Principle

Casein Peptone and yeast extract in the medium provide nitrogenous, vitamin B source and other essential nutrients. Crystal violet, vancomycin, polymyxin B and gentamycin agent is used as selective agents, which inhibit organisms commonly found in respiratory secretions other than *B. cepacian* complex. Sucrose and Lactose are carbohydrates for enrichment and differentiation with phenol red as a pH indicator (changes colour from pink orange to pink red in alkaline pH).

## Formula\*

Ingredients	g/L	
Casein Peptone	10.0	
Lactose	10.0	
Sucrose	10.0	
Sodium Chloride	5.0	
Yeast extract	1.5	
Phenol red	0.08	
Crystal violet	2.0 mg	
Agar	14.0	
Gentamicin	10.0 mg	
Vancomycin	2.5 mg	
Polymyxin B	600,000 U	
Final pH (at 25°C)	$6.8 \pm 0.3$	
*Adjusted to suit performance parameters.		

#### **Additional Material Required**

Bacteriological Incubator.

#### Instructions for use

- 1. Open the sterile pack and remove the respective plate aseptically.
- 2. Inoculate/streak the plate and Incubate in inverted position as per standard procedure.

## **Reading and interpretation**

- 1. After incubation, observe the microbial growth and count the colonies.
- 2. Interpretation is assured by user.
- 3. User is responsible to define the action limits as per standard guidelines and alert limits on the basis of trend analysis & other relevant data.

# **Quality Control**

**Appearance:** Gel with smooth and even surface, without any cracks, bubbles and drying or shrinking of media. **Colour of Medium:** Reddish orange coloured, slightly opalescent gel forms in petridishes.

Quantity of Medium: 27 ± 2 g in 90 mm petriplate.

**pH at 25°C ± 2°C**: 6.8 ± 0.3

Gamma Irradiation: The above said product was Gamma Irradiated between 12KGy - 21KGy.

**Growth Promotion Test:** Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP/BP and growth is observed after 30°C-35°C for 48-72 hours.

**Growth Promoting Properties:** The test results observed are within the specified temperature and shortest period of time, inoculating  $\leq$  100 cfu of appropriate microorganism.

**Indicative Properties:** The test results observed are within the specified temperature and time, inoculating ≤ 100 cfu of appropriate microorganism.

**Inhibitory Properties:** No growth of the test microorganism occurs for the specified temperature and not less than the longest period of the time specified, inoculating greater than 100 cfu of the appropriate microorganism.

# **Growth Promoting**

Organism (ATCC)	Growth
Burkholderia cepacia (25416)	Good
Burkholderia cenocepacia (BAA-245)	Good
Burkholderia multivorans (BAA-247)	Good
Burkholderia cenocepacia (25608)	Good
Inhibitory	
Pseudomonas aeruginosa (9027)	Inhibited

Staphylococcus aureus subsp. aureus (6538) Inhibited

## Storage and Shelf Life

- 1. Store between 15°C-25°C to avoid water condensation. Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.
- 2. Under optimal conditions, the medium has a shelf life of 6 months. Use before expiry mentioned on the label.

## 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. MacDonald Gilligan, Welch, Reller and Menegus, 1994, Vol. 5:1, Cystic Fibrosis Foundation, Washington, D.C.
- 4. Gilligan, 1996. Clin. Microbiol. Newsl. 18:83.
- 5. Christensen et al, 1980, J. Clin. Microbiol., 27:270.
- 6. The United States Pharmacopoeia, 2019. (60) Microbiological examination of non-sterile products-tests for Burkholderia Cepacia Complex.
- 7. Data on file: Microxpress<sup>®</sup>, A division of Tulip Diagnostics (P) Ltd.

# Product Presentation:

Cat No.	Product	Pack Size
205020870100	Burkhloderia cepacia Selective Agar USP Plate	100 Plates

#### Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.