OFPBL Agar Base (Oxidation Fermentation Polymyxin Bacitracin Lactose Agar Base)

Intended Use
OFPBL is a medium, supplemented with Polymyxin and Bacitracin, recommended for the selective isolation of *Burkholderia cepacia* from clinical specimens as well as non-clinical samples.

Summary
Burkholderia cepacia is an opportunistic pathogen generally associated with nosocomial infections. Due to its ability to survive for extended period of time in hostile environments, it is found in such widely varied and inhibitory items such as equipment, medications, mouthwash and disinfectants. Nosocomial infections caused by this organism include bacteremia, urinary infections, and respiratory infections. However, the most serious implication is when identified in patients with Cystic Fibrosis (CF) Patients with cystic fibrosis (CF) have a predisposition for infection and infected patients, if untreated, show a rapid decline in lung function, frequent bacteremia, and death due to lung failure. It is also reported to be a primary cause of bacteremia, pneumonia, and death in the Chronic Granulomatous Disease CGD patient population. Therefore, it is critical that isolation and proper identification be fast and accurate. Burkholderia Cepacia Agar as well as OFPBL Agar is recommended for isolation of *Burkholderia cepacia* from clinical specimens.
OFPBL medium is a modified version of OF (Oxidation Fermentation) basal medium developed by a group of researchers, Welch et al., in 1987. They demonstrated that OFPBL agar resulted in improved recovery and isolation of Burkholderia cepacia when compared to other selective mediums such as MacConkey agar, XLD agar and various blood agars.

Principle
OFPBL Agar contains the casein enzyme hydrolysate which provides necessary nitrogenous compounds and lactose serves as carbohydrate source. Lactose is readily utilized by *Burkholderia cepacia*. The fermentation of lactose results in the release of acid end-products which is detected by the pH indicator, bromothymol blue, present in the medium. When sufficient acid is produced the medium changes from green to yellow providing the colonies their yellow coloration. Dipotassium hydrogen phosphate in the medium buffers the medium well. Sodium chloride helps to maintain osmotic balance. The selectivity of the medium owes itself to the presence of the antibiotics Polymixin B and Bacitracin together these antibiotics provide good suppression of the bacterial flora present in respiratory secretions and sputum (for the inhibition of Gram-positive organisms and *Neisseria*).

Formula*

Ingredients	**g/L**
Casein Enzyme Hydrolysate	2.0
Dipotassium Hydrogen Phosphate	0.3
Sodium Chloride	5.0
Lactose	10.0
Bromothymol Blue	0.03
Agar	15.0
Final pH (at 25°C)	6.8 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 32.33 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Cool to 45°C-50°C and aseptically add rehydrated contents of one vial of OFPBL selective supplement.
5. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Yellow to yellowish green coloured, homogenous, free flowing powder.
Prepared Appearance: Green coloured, clear to slightly opalescent gel forms in petridishes.
Cultural response: Cultural characteristics observed with added OFPBL Selective Supplement, after an incubation of 48-72 hours at 30°C-35°C. Examine upto five days.

Organism (ATCC)	**Growth**	**Colour of Colony**
Burkholderia cepacia (25416)	Good	Yellow w/ yellow halo
Staphylococcus aureus subsp. *aureus* (25923)	Inhibited	-
Escherichia coli (25922)	Inhibited	-

Interpretation of Results

1. *Burkholderia cepacia* colonies appear as yellow colonies with yellow halos. Most strains will grow in 48 hours but some strains may require up to 5 days for the color development. Most other microorganisms are inhibited on this medium.
2. Other similar bacteria such as *Pseudomonas aeruginosa* may also grow as yellow colonies and further testing must be performed to differentiate these bacteria from *Burkholderia cepacia*.
3. *Burkholderia gladioli* which has been shown to occur in respiratory tract specimens of CF patients will grow on OFPBL Agar and may resemble *B. cepacia*.
4. Any growth is considered a positive result and additional biochemical and/or serological tests should be performed on isolated colonies from pure culture.
5. The yellowing of the medium signifies carbohydrate fermentation and some rare, atypical strains of *Burkholderia cepacia* may not produce this reaction.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Gilligan, P. H. and P. Vandamme, 2003. Misc. Gram Negative Bacteria, pp 729-748. In Murray, P. R., *et al.,* Manual of Clinical Microbiology, 8th ed., American Society for Microbiology, Washington D.C., 2003.
2. O'Neil, K.M., *et al.,* 1986. J. Pediatr.108: 940-942.
3. Carson, L.A.*et.al.,* 1988. J. Clin.Microbiol. 25:1730-1734.
4. Tablan, O.C., *et.al.,* 1987. J. Clin.Microbiol. 25:485-487.
5. Welch DF, Muszynski M. J, Pai CH, Marcon MJ, Hribar MM, Gilligan PH, Matsen JM, Ahlin PA, Hilman BC, Chartrand SA. 1987. J. Clin.Microbiol; 25:1730-4.
6. Christenson, J.C., *et.al*., 1989. J. Clin. Microbiol.27: 270-273.
7. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201150040500	Dehydrated Culture Media	500 g

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.