# OFPBL AGAR

- For in vitro use only - Catalogue No. PO20

Our OFPBL Agar is used for the selective isolation of *Burkholderia cepacia* from clinical specimens as well as non-clinical samples.

*Burkholderia cepacia* is an opportunistic pathogen that has been associated with nosocomial infections caused by contaminated equipment, medications, and disinfectants, although the most at risk group are CF patients. Patients with cystic fibrosis 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.

OFPBL stands for Oxidation Fermentation basal medium with Polymixin Bacitracin and Lactose. This medium is a modified version of OF 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 mediums such as MacConkey agar, XLD agar and various blood agars.

OFPBL contains the nutritional components pancreatic digest of casein and lactose. Lactose is a carbohydrate readily utilized by *Burkholderia cepacia.* The fermentation of lactose results in the release of acid end-products detected by the pH indicator, bromthymol blue, present in the medium. When sufficient acid is produced the medium changes from green to yellow providing the colonies their yellow coloration. 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.

**Formulation per Litre of Medium**

| | |
|---|---|
| Pancreatic Digest of Casein | 2.0 g |
| Sodium Chloride | 5.0 g |
| Lactose | 10.0 g |
| Dipotassium phosphate | 0.3 g |
| Bromthymol Blue | 0.08 g |
| Agar | 15.0 g |
| Polymixin B | 600,000 IU |
| Bacitracin | 200 IU |

pH 6.8 ± 0.2

**Recommended Procedure**

1. Allow plates to adjust to room temperature prior to inoculation.
2. Appropriate patient samples for testing include sputum, bronchial washings, and pharyngeal swabs.
3. Using a direct or diluted inoculum from the sample, perform a four-quadrant streak to obtain well-isolated colonies. If the sample is contained on a swab, roll the swab over a small area near the edge of the plate and proceed to streak for isolation using a sterile loop.
4. Incubate plates aerobically at 30 to 35°C.
5. Examine plates daily for up to 5 days.

**Interpretation of Results**

Typically, *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. Incubate plates a minimum of 5 days before discarding.

Most other microorganisms are inhibited on this medium. Other similar bacteria such as *Pseudomonas aeruginosa* may also grow as yellow colonies and further testing must be performed to differentiate these bacteria from *B. cepacia*.

Any growth is considered a positive result and additional biochemical and/or serological tests should be performed on isolated colonies from pure culture in order to complete identification.

- *The yellowing of the medium signifies carbohydrate fermentation and some rare, atypical strains of Burkholderia cepacia may not produce this reaction*

## Quality Control

After checking for correct pH, colour, depth, and sterility, the following organisms are used to determine the growth performance of the completed medium.

| Organism | Expected Result |
|---|---|
| *Burkholderia cepacia* ATCC 25416 | Growth Yellow with yellow halo |
| *Escherichia coli* ATCC 25922 | Inhibition |
| *Staphylococcus aureus* ATCC 25923 | Inhibition |

## Storage and Shelf Life

Our OFPBL Agar should be stored away from direct light at 4 to 8°C. The medium side should be uppermost to prevent excessive accumulation of moisture on the agar surface. Under these conditions this medium has a shelf life of 6 weeks from the date of manufacture.

## References


1. Welch DF, Muszynski MJ, Pai CH, Marcon MJ, Hribar MM, Gilligan PH, Matsen JM, Ahlin PA, Hilman BC, Chartrand SA. Selective and differential medium for recovery of *Pseudomonas cepacia* from the respiratory tracts of patients with cystic fibrosis. J Clin Micro 1987; 25:1730-4.
2. Carson LA, Tablan OC, Cusick LB, Jarvis WR, Favero MS, Bland LA. Comparative evaluation of selective media for isolation of *Pseudomonas cepacia* from cystic fibrosis patients and environmental sources. J Clin Micro 1988; 26:2096-2100.
3. Henry DA, Campbell ME, LiPuma JJ, Speert DP. Identification of *Burkholderia cepacia* isolates from patients with cystic fibrosis and use of a simple new selective medium. J Clin Micro 1997; 35:614-9.
4. Murray P R, Baron E, Pfaller M, Tenover F, Yolken R. Manual of Clinical Microbiology, 7th ed. Washington: ASM, 1999.



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