

Burkholderia cepacia Supplement

Cat. No. MMS-M-X032

Selective supplement for the isolation of Burkholderia cepacia.

Principles and uses:

Burkholderia Cepacia Agar Base (Cat. MM-M-347) is a selective medium especially formulated for the isolation of Burkholderia cepacia (Pseudomonas cepacia), from clinical and non-clinical specimens. Burkholderia cepacia is a Gram-negative, oxidase positive, mobile and aerobic bacillus. It is normally found in water deposits and damp environments. This bacillus is an important opportunist pathogen and causes pulmonary infections in Cystic Fibrosis patients.

The organism may be present in small numbers in many non sterile products used in hospitals. It has been isolated from a number of water sources and can grow in distilled water with a nitrogen source because of its capacity to fix CO₂ from air. Suction catheters rinsed in a solution of acetic acid have reduced the transmission of Burkholderia cepacia and other Pseudomonas.

The medium contains peptone, which provides nitrogen, vitamins, minerals and amino acids essential for growth. Selective agents are added to improve

B. cepacia recovery through the inhibition of common contaminants. Crystal violet inhibits Gram-positive cocci, especially enterococci and staphylococci. Bile salts inhibit most Gram-positive cocci except for enterococci, and ticarcillin and polymyxin B inhibit Gram-negative bacilli. Phenol red facilitates detection of B. cepacia. Alkaline end products from the metabolism of pyruvate raise the pH of the medium, causing the color of the indicator to change from light orange to pink, or pink-red, in the growth area. In areas of heavy B. cepacia growth, the pink color intensifies. Magnesium sulphate, ammonium sulphate and ferrous sulfate provide sources of sulfates and metallic ions. Phosphate salts act as a buffer system. Bacteriological agar is the solidifying agent.

Colonies of B. cepacia are 1-2 mm in diameter and turn the medium to pink. Low numbers of colonies may not produce a color change of the medium. Occasional growth of some strains of Candida species, Stenotrophomonas maltophilia, Pseudomonas aeruginosa and other Pseudomonas species may occur.

Formula per Vial:

Polymixin B (IU)	75000	Ticarcillin (mg)	50
Gentamicin (mg)	2.5		

Preparation:

Aseptically reconstitute 1 vial with 5 ml of sterile distilled water. Mix gently until complete dissolution and aseptically add to 500 ml of Burkholderia Cepacia Agar Base (Cat. MM-M-347), autoclaved and cooled to 50°C. Mix well and distribute into sterile containers.

Instructions for use:

- Take a routine respiratory sample from the patient (e.g. sputa, deep pharyngeal swabs or bronchial washings).
- Dilute the sample if necessary.
- Streak onto Burkholderia cepacia Agar Base and incubate at 37°C for 48-72 hours.
- Examine for green colonies and the medium turning to bright pink.
- Re-incubate for a further 24 hours if necessary.

Technical Data Sheet

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Quality control:

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Lyophilized tablet	N/A	Transparent	N/A

Microbiological test:

Incubation conditions: (37°C / 48-72 h).

Reference media: TSA

Microorganisms	Specification
Burkholderia Cepacia ATCC 25608	Good growth
Pseudomonas aeruginosa ATCC 27853	Total inhibition

Storage:

Temperature: 2°C - 8°C

Bibliography:

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Bashan, Y. and Holguin, Gina. [1998): Proposal for the Division of plant growth-promoting rhizobacteria into two classifications: biocontrol-PGPB [plant growth-promoting bacteria) and PGPB. Soil Biol Biochem. Vol. 30[8-9): 1225-1228.