Burkholderia Cepacia Agar Base

Cat. 1347

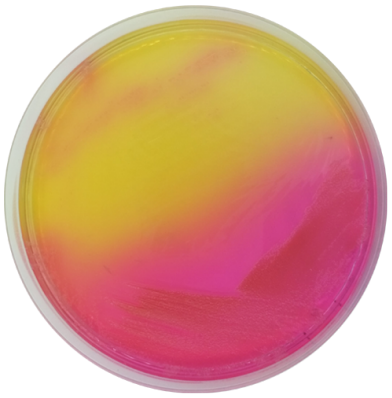
For the selective isolation of Burkholderia cepacia from respiratory secretions of Cystic Fibrosis patients, and for the routine testing of non-sterile inorganic salts containing preservatives.

Practical information

Aplications	Categories
Selective isolation	Burkholderia

Industry: Clinical

CE
IVD



Principles and uses

Burkholderia Cepacia Agar Base 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 inihibition 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 in g/L

Ammonium sulfate	1	Bacteriological agar	12
Bile salts	1,5	Crystal violet	0,001
Disodium phosphate	1,4	Magnesium sulfate	0,2
Peptone	5	Phenol red	0,02
Potassium dihydrogenphosphate	4,4	Sodium pyruvate	7
Yeast extract	4	Ferric ammonium sulfate	0,01

Preparation

Suspend 18,25 grams of the medium in 500 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121 ºC for 15 minutes. Cool to 45-50 ºC and aseptically add one vial of Burkholderia Selective Supplement (Cat. 6032). Homogenize gently and dispense into Petri dishes.

Instructions for use

» For clinical diagnosis, the type of sample is any clinical sample from respiratory tract, urinary tract and others.

- Spread by streaking the surface with a sterile loop.
- Incubate in aerobic conditions at 30-35 ºC for 48-72 hours.
- Reading and interpretation of the results.

» For other uses not covered by the CE marking.

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

Quality control

Solubility	Appareance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25ºC)
w/o rests	Fine powder	Pink	Orange	6,2 ± 0,2

Microbiological test

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

Microorganisms	Specification
Burkholderia Cepacia ATCC 17759	Good growth
Pseudomonas aeruginosa ATCC 27853	Total inhibition

Storage

Temp. Min.:2 ºC
Temp. Max.:25 ºC

Bibliography

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