TM 2022 – BURKHOLDERIA CEPACIA SELECTIVE AGAR BASE

INTENDED USE

For isolation of *Burkholderia cepacia* from the respiratory secretions of patients with cystic fibrosis and other non-clinical specimens.

PRODUCT SUMMARY AND EXPLANATION

Burkholderia cepacia is an important opportunistic pathogen and causes pulmonary infection among individuals with cystic fibrosis (CF). *Burkholderia cepacia* species are gram negative, rod shaped bacteria. The organism may lead to *Burkholderia cepacia* syndrome, a neutralizing pneumonia associated with fever that culminates in to a rapid and fatal clinical deterioration. *Burkholderia cepacia* species may cause severe infection in individuals with cystic fibrosis and immunosuppressed individuals. *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. *Burkholderia Cepacia* 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. Burkholderia cepacia* have the potential of overcoming antimicrobial preservative systems and antiseptics, and can grow in preserved aqueous oral liquids and topical products. This medium is recommended for detection of *Burkholderia cepacia* in pharmaceutical products. Test procedure: The sample is initially enriched in Soyabean Casein Digest Medium and then plated on Burkholderia Cepacia Selective Agar.

COMPOSITION

Ingredients	Gms / Ltr
Casein peptone	10.000
Lactose	10.000
Sucrose	10.000
Sodium chloride	5.000
Yeast extract	1.500
Phenol red	0.080
Crystal violet	0.002
Gentamicin	0.010
Vancomycin	0.0025
Polymyxin B	600000 units
Agar	14.000

PRINCIPLE

Casitose and yeast extract in the medium provides the carbonaceous, nitrogenous, long chain amino acids, vitamin B source and other essential nutrients. Crystal violet and antimicrobial agents are used as selective agents. Crystal violet and vancomycin inhibits gram-positive cocci including Enterococci and Staphylococci. The antibiotics namely polymyxin B and gentamicin inhibits gram-negative bacteria. *B. cepacia* metabolizes pyruvate forming alkaline end products. Sucrose and Lactose are the fermentable carbohydrate. The phenol red indicator changes colour from pink orange to pink red in alkaline pH.

INSTRUCTION FOR USE

- Dissolve 50.60 grams in 1000 ml purified / distilled water.

- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.
- Cool to 45-50°C. Mix well and pour in sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to pink homogeneous free flowing powder.
Appearance of prepared medium : Orange coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 7.0±0.1

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Burkholderia cepacia	25416	50-100	Good-luxuriant	>=50%	Greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone	30-35°C	18-72 Hours
Burkholderia cepacia	25608	50-100	Good-luxuriant	>=50%	Greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone	30-35°C	18-72 Hours
Burkholderia cenocepacia	BAA-245	50-100	Good-luxuriant	>=50%	Greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone	30-35°C	18-72 Hours
Burkholderia multivorans	BAA-247	50-100	Good-luxuriant	>=50%	Greenish brown colonies w/ yellow halo or white colonies surrounded by pink zone	30-35°C	18-72 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

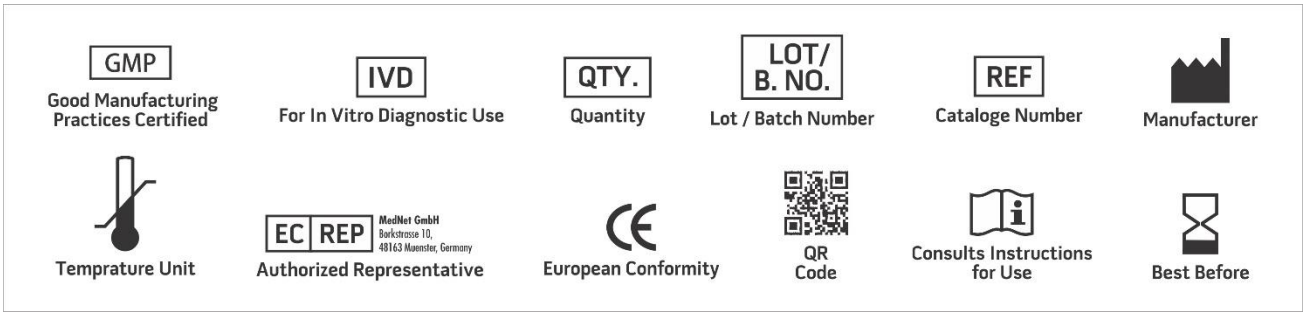
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Gilligar, Gage, Bradshaw, schidlow and Deciscco, 1985, J. Clin. Microbiol., 22:5.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. Jorgensen, J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Whitby P. W., 1998, J. Clin. Microbiol., 36:1642 1645.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 08 Nov., 2019