TM 1934 – BURKHOLDERIA CEPACIA 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). The organism may lead to *Burkholderia cepacia* syndrome, a neutralizing pneumonia associated with fever that culminates in to a rapid and fatal clinical deterioration. *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*. The medium is made selective for *B. cepacia* by the incorporation of bile salts, crystal violet and antibiotics. The antibiotics included are Polymyxin B, Gentamycin, Ticarcillin in the form of freeze dried supplement (FD). The antibiotics (FD) namely ticarcillin, polymixin B and gentamycin inhibit gramnegative bacteria. *B. cepacia* metabolizes pyruvate forming alkaline end products. These end products elevate the pH of the medium. The phenol red indicator changes colour from pink orange to pink red in alkaline pH.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Yeast extract	4.000
Sodium pyruvate	7.000
Potassium dihydrogen phosphate	4.400
Disodium hydrogen phosphate	1.400
Bile salts	1.500
Ammonium sulphate	1.000
Magnesium sulphate	0.200
Ammonium ferrous sulphate	0.010
Phenol red	0.020
Crystal violet	0.001
Agar	12.000

PRINCIPLE

Peptone and yeast extract in the medium provides the nitrogenous, vitamin B source and other essential nutrients. Crystal violet, bile salts and antimicrobial agents are used as selective agents. Crystal violet and bile salts inhibits gram-positive cocci including Enterococci and Staphylococci.

INSTRUCTION FOR USE

- Dissolve **36.52** grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.

- Cool to 45-50°C and aseptically add the rehydrated contents of 2 vial of Burkholderia Selective Supplement (TS 323)
- 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 : Yellow coloured clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 6.2±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Burkholderia cepacia	25608	50-100	Good-luxuriant	>=50%	Sage green colonies with bright pink medium	35-37°C	≤48 Hours
Burkholderia cepacia	25416	50-100	Good-luxuriant	>=50%	Sage green colonies with bright pink medium	35-37°C	≤48 Hours
Pseudomonas aeruginosa	9027	>=10^3	Inhibited	0%	-	35-37°C	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. Whitby P. W., 1998, J. Clin. Microbiol., 36:1642 1645
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3. MacDonald Gilligan, Welch, Reller and Menegus, 1994, Vol. 5:1, Cystic Fibrosis Foundation, Washington, D.C.
4. Gilligan, 1996. Clin. Microbiol. Newsl. 18:83.
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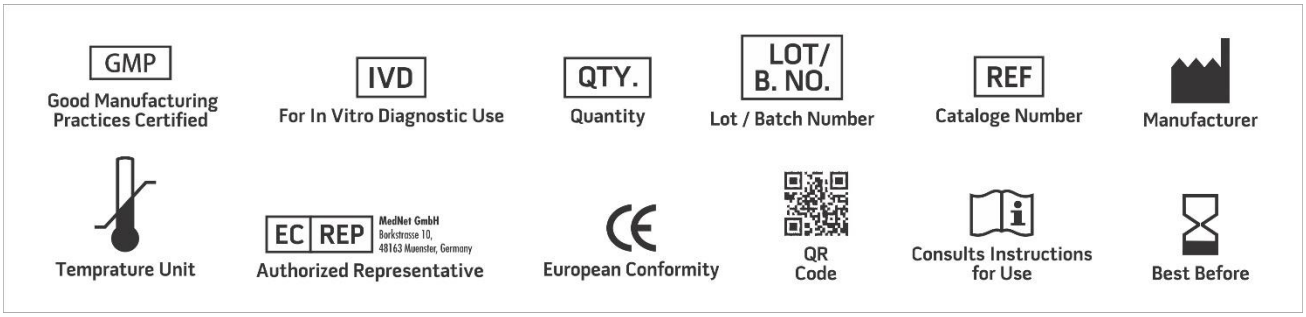

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 28 Oct., 2023