CM 22523 - BURKHLODERIA CEPACIA SELECTIVE AGAR (BCSA) (AS PER USP)

INTENDEDUSE

Forusein qualitative procedures for the selective and differential isolation of Burkholderia cepacia complex from respiratory secreations of patients with cysticfibrosis.

PRODUCT SUMMARY AND EXPLANATION

Burkholderia cepacia isanimportantopportunistic 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.

COMPOSITION

Ingredients	Gms / Ltr
Agar	14.000
Casein Peptone	10.000
Lactose	10.000
Sucrose	10.000
Sodium chloride	5.000
Yeast Extract	1.500
Phenol red	0.08
Crystal Violet	0.002

PRINCIPLE

Casein Peptone 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. Test procedure: The sample is initially enriched in Soyabean Casein Digest Medium and then plated on Burkholderia cepacia Selective Agar.

INSTRUCTION FOR USE

Eitherstreak,inoculateorsurface spread the test inoculum aseptically on the plate.

QUALITY CONTROL SPECIFICATIONS

Appearance : Orange coloured clear

Quantity of Medium	:	25ml of medium in 90mm plates.
pH (at 25°C)	:	6.8 ± 0.3
Sterility Check	:	Passes release criteria

INTERPRETATION

Culturalresponse was observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the Colony	Incubation Temperature	Incubation Period
Bulkholderia multivorans	BAA-247	50-100	Good-Luxuriant	>=50%	greenish brown colonies w/yellow halo or white colonies surrounded by pink red zone	30-35°C	48-72 Hours
Bulkholderia cepacia	25416	50-100	Good-Luxuriant	>=50%	greenish brown colonies w/yellow halo or white colonies surrounded by pink red zone	30-35°C	48-72 Hours
Bulkholderia cenocapacia	BAA-245	50-100	Good-Luxuriant	>=50%	greenish brown colonies w/yellow halo or white colonies surrounded by pink red zone	30-35°C	48-72 Hours
Bulkholderia cepacia	25608	50-100	Good-Luxuriant	>=50%	greenish brown colonies w/yellow halo or white colonies surrounded by pink red zone	30-35°C	48-72 Hours
Pseudomonas aeruginosa	9027	>=10^3 50-100	Inhibited	0%	-	30-35°C	48-72 Hours
Staphylococcus aureus	6538		Inhibited	0%	-	30-35°C	48-72 Hours

PACKAGING:

Doubledlayered packing containing 5 No. of plates with one silica gel desiccant bag packed inside it.

STORAGE

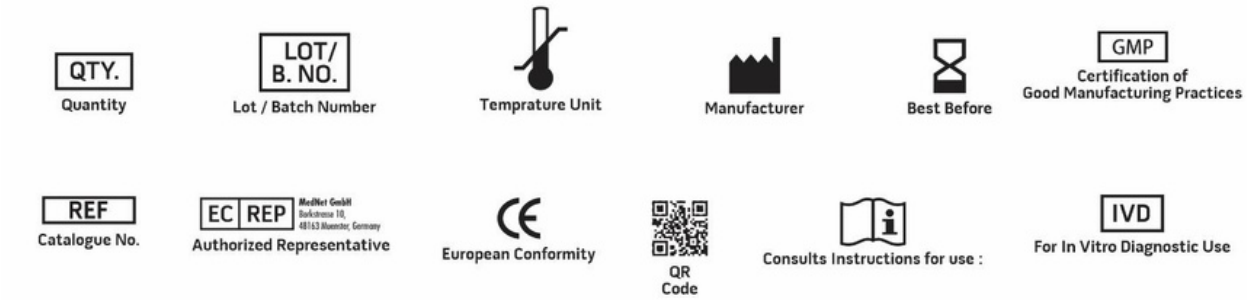
Onreceipt, store the plates at 15–30 °C. Avoid freezing and overheating. Do not open until ready to use. Prepared plates stored in their original sleeve wrapping until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times. Allow the medium to warm to room temperature before inoculation. Product Deterioration: Do not use plates if they show evidence of microbial contamination, discoloration, drying, cracking or other signs of deterioration.

DISPOSAL

Afteruse,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. The United States Pharmacopoeia, 2019, Microbial exmination of nonsterile products- Tests for Burkholderia cepacia complex The United States Pharmacopoeial Convention. Rockville, MD.
5. 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.

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