



BURKHOLDERIA CEPACIA SELECTIVE AGAR (BCSA)

- For in vitro use only -

Catalogue No. PB95

Our Burkholderia Cepacia Selective Agar (BCSA) is used for the selective isolation of *Burkholderia cepacia* from clinical specimens and from environmental samples.

Burkholderia cepacia is an opportunistic pathogen that has been associated with nosocomial infections caused by contaminated equipment, medications, and disinfectants, although the most at risk group are CF patients. Patients with cystic fibrosis have a predisposition for infection and infected patients, if untreated, show a rapid decline in lung function, frequent bacteremia, and death due to lung failure.

Henry, Campbell, LiPuma and Speert devised a new selective medium in 1996 that demonstrated better selectivity and quicker growth of *Burkholderia cepacia* when compared to PC (*Pseudomonas cepacia*) Agar and OFPBL (oxidative-fermentative, polymyxin, bacitracin, lactose) Agar. Henry et al. showed that using BCSA resulted in fewer false positives, and quicker and better isolation of *Burkholderia* colonies.

BCSA contains numerous nutritional components that include pancreatic digest of casein and yeast extract, as well as two carbohydrate sources, lactose and sucrose. The majority of *Burkholderia cepacia* isolates ferment both lactose and sucrose and the acid end-products result in the medium changing from orange to yellow due to the presence of the pH indicator, phenol red. The increased selectivity of the medium owes itself to four main components: crystal violet, vancomycin, polymyxin, and gentamicin. Like MacConkey Agar, crystal violet is added to inhibit gram-positive organisms especially staphylococci. The limitations of crystal violet activity on enterococci necessitates the inclusion of vancomycin, a potent glycopeptide that possesses

good bactericidal activity against enterococci and a range of other gram-positive organisms. Polymyxin and gentamicin work synergistically to inhibit and kill numerous aerobic, gram-negative bacilli including *Pseudomonas*.

Formula per Litre of Medium

Pancreatic Digest of Casein	10.0 g
Yeast Extract	1.5 g
Sodium Chloride	5.0 g
Sucrose	10.0 g
Lactose	10.0 g
Phenol Red	0.08 g
Crystal Violet	0.002 g
Agar	14.0 g
Polymyxin B	600 000 IU
Gentamicin	10.0 mg
Vancomycin	2.5 mg

pH 7.2 ± 0.2

Recommended Procedure

1. Allow plates to adjust to room temperature prior to inoculation.
2. Appropriate patient samples for testing include sputum, bronchial washings, and pharyngeal swabs. Environmental samples, disinfectants, and other suspect solutions can also be tested.
3. Using a direct or diluted inoculum from the sample, perform a four-quadrant streak to obtain well-isolated colonies. If the sample is contained on a swab, roll the swab over a small area near the edge of the plate and proceed to streak for isolation using a sterile loop.

