CAMPYLOBACTER BLOOD AGAR (CVA)

- For in vitro use only - Catalogue No. PC24

Our Campylobacter Blood Agar (CVA) is a selective medium used for the primary isolation of *Campylobacter jejuni* from stool specimens.

Campylobacter jejuni and *Campylobacter coli* have been recognized as agents of gastrointestinal infection since the late 1970s. In 1978, Blaser et al reported success in the isolation of *C. jejuni* using a selective medium containing four antimicrobials (amphotericin, vancomycin, polymyxin B, and trimethoprim). In 1983, Reller et al. introduced an improved selective medium containing cefoperazone, Vancomycin, and amphotericin B (CVA) for the isolation of *C. jejuni*. They reported that this combination of antimicrobials provided better suppression of normal fecal flora thus allowing better isolation of *C. jejuni* than previously developed selective blood agars.

This medium contains a variety of peptones and extracts that supplies all the necessary growth factors for *Campylobacter* species to thrive. The various antimicrobial agents inhibit a variety of microbes: cefoperazone is a cephalosporin that suppresses the growth of gram negative bacilli and some gram-positive bacteria as well; vancomycin is glycopeptides that inhibits many species of gram-positive bacteria; amphotericin B is a antifungal agent that can inhibit a wide variety of yeasts and molds. *Campylobacter jejuni* are thermophiles therefore inoculated plates should be incubated at 42°C to accelerate growth; the higher temperature also helps to inhibit any background flora that may be present.

Formula per Litre of Medium

Pancreatic Digest of Casein	10.0 g
Peptic Digest of Animal Tissue	10.0 g
Dextrose	1.0 g
Yeast Extract	2.0 g
Sodium Chloride	5.0 g
Sodium Bisulfite	0.1 g
Agar	15.0 g
Cefoperazone	20.0 mg
Vancomycin	10.0 mg
Amphotericin B	2.0 mg
Defibrinated Sheep Blood	50 mL

pH 7.2 ± 0.2

Recommended Procedure

1. Allow medium to adjust to room temperature prior to inoculation. Streak specimen as soon as possible after it is received in the laboratory.
2. Using a direct inoculum from the specimen, perform a four-quadrant streak to obtain well-isolated colonies. If specimens are contained on a swab, swab directly onto the agar surface and streak for isolation.
3. Incubate at 42°C under microaerophilic conditions (reduced oxygen and increased carbon dioxide).
4. Examine plates after 24 and 48 hours for typical colonies.

Interpretation of Results

Campylobacter jejuni will typically appear as small, gray, flat, non-hemolytic, mucoid colonies at 24 and 48 hours. A full 48-hour incubation is required as some isolates may be barely visible after only 24 hours of incubation. Some colonies may appear as round colonies 1 to 2-mm in diameter that are convex, entire and glistening. Spreading and swarming are common for isolates from fresh clinical specimens.

Additional biochemical and serological test should be performed on isolated colonies from pure culture in order to complete identification.

- *Other thermophilic Campylobacter species such as C. coli will grow well on this medium.*

Quality Control

After checking for correct pH, colour, depth, and sterility, the following organisms are used to determine the growth performance of the completed medium.

Organism	Expected Result
Campylobacter jejuni ATCC 33291	Growth
Escherichia coli ATCC 25922	Inhibition
Candida albicans ATCC 10231	Inhibition

Storage and Shelf Life

Campylobacter Blood Agar (CVA) should be stored at 4 to 8°C and protected from light. The medium side should be uppermost to prevent excessive accumulation of moisture on the agar surface. Under these conditions the medium has a shelf life of 8 weeks from the date of manufacture.

References

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Original: January 2004
Revised / Reviewed: May 2014