

Campylobacter Agar Base

Designed for selective isolation of *Campylobacter* species from faecal specimens, food and environmental specimens.

REF: BS.1/CMP01.100.0100 100 Gram
 REF: BS.1/CMP01.500.0500 500 Gram

REF: BS.1/CMP01.250.0250 250 Gram

CLINICAL SIGNIFICANCE

Campylobacter species are ubiquitous in the environment inhabiting a wide variety of ecological niches (1). Infection with a *Campylobacter* species is one of the most common causes of human bacterial gastroenteritis (1). Most species are found in animals (cattle, swine) and cause infertility and abortion (2). *C. jejuni* was originally isolated on a blood-containing media with antibiotics (3). Skirrow described a selective medium for *Campylobacter* species consisting of Blood Agar Base No. 2 supplemented with horse blood and antibiotics (4). Subsequently, Blaser et al isolated *C. jejuni* on Brucella Agar supplemented with sheep blood and four antibiotics (5). Later on, a fifth antibiotic, cephalothin was added to improve the selectivity of the medium by inhibition of accompanying faecal bacteria (6). Campylobacter Agar Base is recommended by APHA for selective isolation of Campylobacter species (7).

METHOD PRINCIPLE

Campylobacter Agar Base is well supplemented to support luxuriant growth of Campylobacter species. Osmotic equilibrium of the medium is maintained by sodium chloride. Blood serves as an additional source of nutrients including X factor. The antibiotic supplements namely Blaser-Wang and Skirrow markedly reduce the growth of normal enteric bacteria while enhancing the growth and recovery of *C. jejuni* from faecal specimens. Amphotericin B in Blaser-Wang supplement greatly or completely inhibits growth of fungi. *C. jejuni* colonies appear non-haemolytic, flat and gray with an irregular edge or raised and round with a mucoid appearance. Some strains may appear tan or slightly pink. Swarming may be observed on moist surfaces. Incubation at 35-37°C may show a delayed growth of *C. jejuni* cultures. Incubating the plates at 42°C can fasten this. The contaminated food sample (10 to 25 grams) is enriched in Campylobacter Enrichment Broth Base. The broth is incubated with agitation under a micro aerobic atmosphere for 16-18 hrs. The enrichment culture is then plated onto the selective media i.e. Campylobacter Agar Base (7).

MEDIA COMPOSITION

Item	Formula per liter of medium
- Proteose peptone	15.00 gm
- Liver digest	2.500 gm
- Yeast extract	5.000 gm
- Sodium chloride	5.000 gm
- Agar	12.00 gm

Final pH 7.4 ± 0.2 at 25 °C

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.

- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.

S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.

S61: avoid release in environment.

For further information, refer to the Campylobacter Agar Base material safety datasheet.

STORAGE AND STABILITY

BioScien Campylobacter Agar Base should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

PREPARATION

- Suspend 19.75 grams in 500 ml purified/distilled water.
- Adjust pH to 7.4 ± 0.2 at 25 °C
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 lbs. pressure (121°C) for 15 minutes.
- Cool to 40-50°C and aseptically add 5-7% v/v sterile lysed horse blood or 10% sterile defibrinated sheep blood and rehydrated contents of one vial of Blaser-Wang Selective Supplement, or Skirrow Selective Supplement.
- Mix well before pouring into sterile Petri plates

Deterioration

The color of **BioScien** Campylobacter Agar Base is Cream to yellow homogeneous free flowing powder. Prepared medium:

- Basal medium: Yellow coloured clear gel
- After addition of 5-7% v/v lysed blood: Reddish brown coloured opaque gel forms in Petri plates.

If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile petri-dishes
- Incubator

SPECIMEN

Clinical samples - faeces; Food and dairy samples; Environmental samples.

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed under reduced oxygen atmosphere after an incubation at 35-37°C for 24-48 hours.
(**FD006- Blaser-Wang** Selective Supplement/ **FD008-Skirrow** Selective Supplement)

Oranism	Growth with Blaser-Wang Selective Supplement	Growth with Skirrow Selective Supplement
<i>Candida albicans</i> ATCC 10231	None - poor	Moderate
<i>Campylobacter jejuni</i> ATCC 29428	Good-luxuriant	Good-luxuriant
<i>Escherichia coli</i> ATCC 25922	None - Poor	None - Poor
<i>Enterococcus faecalis</i> ATCC 29212	None - Poor	None - Poor

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact **BioScien** technical support.

REFERENCES

1. Manning H., Duim B., Wassenaar T., Wagenaar A., Ridley A., Newell D.G., 2001, Appl. Environ. Microbiol., 67:1185.
2. Koneman E. W, Allen S. D., Janda W. M, Schreckenberger P. C., Winn W. C. Jr, 1992, Colour Atlas and Textbook of Clinical Microbiology, 4th Edition, J. B. Lippincott Company.
3. Dekeyser P., Hossuin-Detrain M, Butzler J. P. Sterron J., 1972, J. Infect. Dis., 125: 390
4. Skirrow M. D., 1977, Br. Med. J. 2:9
5. Blaser M. J., Cravens B. W., Powers and Wang W. L., 1978, Lanect (ii) : 979
6. Wilson and Wang, 1979, Information flier, Campylobacter Laboratory, Veterans Administration Hospital, Denver. Co.
7. Vanderzant C., and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of foods, 3rd Ed., APHA, Washington, D.C.
8. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
9. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
10. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
11. 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.

SYMBOLS IN PRODUCT LABELLING			
	Batch Code/Lot number		Caution
	Catalogue Number		Do not use if package is damaged
	Temperature Limitation		Consult Instruction for use
	Expiration Date		
	Manufactured by		