

Bolton broth base

Bolton Broth Base is used for the selective enrichment of Campylobacter species from foods.

REF: BS.1/BBT01.100.0100
REF: BS.1/BBT01.500.0500

100 Gram
500 Gram

REF: BS.1/BBT01.250.0250

250 Gram

CLINICAL SIGNIFICANCE ⁽¹⁾

Bolton broth is a selective enrichment broth for Campylobacter species from foods [1,2]. This medium is also recommended by ISO Committee [3] for Campylobacter species from foods. Campylobacter are Gram-negative, spirally shaped microaerophilic organisms which are observed to be occasionally contaminants in raw milk, untreated water, improperly handled food and undercooked meats, poultry and shellfish. The medium was specially developed to improve the recovery of Campylobacter, sublethally damaged cells can recover and grow faster in this medium. Microaerophilic incubation is not needed.

METHOD PRINCIPLE

Enzymatic digest of animal tissues, Lactalbumin hydrolysates and yeast extract provide essential growth nutrients like vitamin, amino acids and other nitrogenous compounds to Campylobacter species. The addition of sodium metabisulphite and sodium pyruvate quenches toxic compounds and increases on this way the recovery rate and also the aero-tolerance of the culture. The alpha-ketoglutaric acid is used for an initial burst of the metabolism. Sodium carbonate is added to neutralize the acid that may form in the culture medium. The osmotic balance is given by the sodium chloride. The antibiotics Vancomycin, Cefepiderazone and Trimethoprim present in the supplement inhibit the growth of gram positive and gram negative bacteria. Amphotericin B, as well in the supplement, largely reduces the growth of yeasts and moulds. Also the incubation temperature of 41.5°C, after the initial incubation step, increases the selectivity

MEDIA COMPOSITION

Item	Formula per liter of medium
- Enzymatic digest of animal tissues	10.00 gm
- Lactalbumin hydrolysate	5.000 gm
- Yeast extract	5.000 gm
- Sodium chloride	5.000 gm
- Sodium metabisulphite	0.500 gm
- Sodium carbonate	0.600 gm
- Hemin	0.010 gm
- alpha-ketoglutaric Acid	1.000 gm
- Sodium pyruvate	0.500 gm

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 Bolton broth base material safety data sheet.

STORAGE AND STABILITY

BioScien Bolton broth base are stable until expiration date stated on label when properly stored Store below 30°C in tightly 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.

Final pH 7.4 ± 0.2 at 25°C

MEDIA PREPARATION

Suspend 13.8 grams in 500 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add rehydrated contents of 1 vial of Bolton Selective supplement (FD231) and 25 ml of sterile lysed defibrinated horse blood in the medium. Horse blood may be saponin lysed or lysed by freezing then thawing out. Mix well and aseptically dispense into sterile tubes.

Deterioration

The color of **BioScien** Bolton broth base is Light yellow to brownish yellow homogeneous free flowing powder. Basal medium: Brownish yellow coloured clear to slightly opalescent solution. After addition of lysed horse blood: Red to brown coloured opaque solution in tubes, media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations.

SPECIMEN COLLECTION AND PRESERVATION

Non - Clinical samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile tubes
- Incubator

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.











PERFORMANCE CHARACTERISTICS

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Organism	Growth
<i>Candida albicans</i> ATCC 10231	Good – luxuriant
<i>Campylobacter coli</i> ATCC 33559	Good – luxuriant
<i>Campylobacter jejuni</i> ATCC 29428	Good – luxuriant
<i>Escherichia coli</i> ATCC 25922	Inhibited

REFERENCES

1. Blasser M.J., Cravens J., Powers B.W., LaForce F.M., and Wang W. L.L., 1979, Am. J. Med., 67:715.
2. Brieseman M.A., 1984, N.Z. Med. J., 97:411.
3. Corry, Curtis and Baird. Culture Media For Food Microbiology, Vol.34. Progress in Industrial Microbiology, 1995, Elsevier, Amsterdam.
4. Hunt J.M, Campylobacter, F.D.A Bacteriological Analytical Manual, 8th Edition (Revision AOAC, Arlington V A (1998).
5. Bolton F. J., Personal communication (1995). 6. International Organization for Standardization (ISO), 2006, Draft ISO 10272-1:2006 (E).

SYMBOLS IN PRODUCT LABELLING	
 For in-vitro diagnostic use	 Number of <n> test in the pack
 Batch Code/Lot number	 Caution
 Catalogue Number	 Do not use if package is damaged
 Temperature Limitation	 Consult Instruction for use
 Expiration Date	
 Manufactured by	