

Bolton Broth

Liquid medium for the enrichment of *Campylobacter* spp. in food and animal feeding stuffs according to ISO 10272-1.

TYPICAL FORMULA	(g/l)
Enzymatic Digest of Animal Tissues	10.0
Lactalbumin Hydrolysate	5.0
Yeast Extract	5.0
Sodium Chloride	5.0
Sodium Pyruvate	0.5
Sodium Metabisulfite	0.5
Sodium Carbonate	0.6
α -Ketoglutaric Acid	1.0
Haemin	0.01
Horse Blood, Lysed	50 ml
Cefoperazone	0.02
Vancomycin	0.02
Trimethoprim	0.02
Amphotericin B	0.01
Final pH 7.4 \pm 0.2	

DESCRIPTION

Bolton Broth is a medium used for the selective enrichment of *Campylobacter* spp. from food, animal feed, environmental samples and other materials.

This medium complies with ISO 10272-1 and is recommended for samples with low numbers of campylobacters and low level of background microflora and/or with stressed campylobacters, e.g. cooked or frozen products.

PRINCIPLE

Enzymatic digest of animal tissues, yeast extract and lactalbumin hydrolysate provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride maintains osmotic balance while sodium metabisulfite and sodium pyruvate quenches any toxic compounds and increase the aero-tolerance of the culture. The composition in antibiotics guarantees the selectivity for *Campylobacter* spp. Cefoperazone is predominantly active against Gram-negatives, Trimethoprim is active against a wide range of Gram-positive and Gram-negative bacteria, Vancomycin inhibits Gram-positives and Amphotericin B inhibits yeasts. Lysed horse blood is added to the medium for the optimal recovery of *Campylobacter* spp.

TECHNIQUE

Pre-warm Bolton Broth to room temperature before use.

Inoculate with the sample and homogenise; typically, the amount of test portion is chosen to prepare a 1 in 10 dilution, e.g. 25 g (or ml) of food into 225 ml enrichment medium. However, it may be necessary to use another ratio.

Incubate in a microaerobic atmosphere at 37°C for 4-6 h and then at 41.5°C for 40-48 h.

Subculture to two isolation media: modified charcoal cefoperazone deoxycholate agar (Liofilchem *Campylobacter* CCDA Agar, ref. 10409) and another solid selective medium based on a principle different from that of mCCD agar.

INTERPRETATION OF RESULTS

Examine the plates for typical and/or suspect colonies of *Campylobacter*. The typical colonies on selective agar plates are greyish and are flat and moist with a tendency to spread. Colonies spread less on dried agar surfaces. Other forms of colonies may occur.

STORAGE

2-8°C away from light, until the expiry date on the label or until signs of deterioration or contamination are evident.

WARNING AND PRECAUTIONS

For professional use only. Operators must be trained and have certain experience in the laboratory methods. Please read the instructions carefully before using this product. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this document.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

1. EN ISO 11133:2014+Amd1:2018. Microbiology of food, animal feed and water – Preparation, production, storage and performance testing of culture media.
2. ISO 10272-1:2017 – Microbiology of the food chain – Horizontal method for detection and enumeration of *Campylobacter* spp. - Part 1: Detection method.
3. Hunt, J.M. (1998) *Campylobacter*. In: F.D.A. Bacteriological Analytical Manual, 8th Edition (Revision A) 7.01-7.27. AOAC, Arlington Va.
4. Bolton, F. J., D. Coates, P. M. Hinchliffe, and L. Robertson (1983) J. Clin. Pathol. 36:78-83.



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PRODUCT SPECIFICATIONS

NAME

Bolton Broth

PRESENTATION

Glass bottles containing liquid medium

STORAGE

2-8°C

PACKAGING

Ref.	Content	Packaging
400260	6 bottles x 1000 ml	6 bottles in cardboard box
470340	6 bottles x 500 ml	6 bottles in cardboard box
414080	6 bottles x 225 ml	6 bottles in cardboard box
451405	25 bottles x 225 ml	25 bottles (screw cap) in cardboard box
414150	6 bottles x 90 ml	6 bottles in cardboard box

pH OF THE MEDIUM

7.4 ± 0.2

USE

Bolton Broth is a medium used for the enrichment of *Campylobacter* spp. in food according to ISO 10272-1

TECHNIQUE

Refer to technical sheet of the product

APPEARANCE OF THE MEDIUM

Straw coloured solution containing small black particles

SHELF LIFE










1 year

QUALITY CONTROL

- Control of general characteristics, label and print
- Sterility control
7 days at 22 ± 2°C, in aerobiosis
7 days at 35 ± 2°C, in aerobiosis
- Microbiological control
Inoculum for productivity: ≤100 CFU
Inoculum for selectivity: ≥10⁴ CFU
Incubation Conditions: 5 ± 1 h at 37 ± 1°C then 44 ± 4 h at 41.5 ± 1°C in microaerobic atmosphere

Microorganism	WDCM	Specification
<i>Campylobacter jejuni</i> + <i>Escherichia coli</i> + <i>Proteus mirabilis</i>	WDCM 00156 WDCM 00012 WDCM 00023	>10 colonies on mCCD agar, colonies greyish, flat and moist, sometimes with metallic sheen
<i>Campylobacter coli</i> + <i>Escherichia coli</i> + <i>Proteus mirabilis</i>	WDCM 00004 WDCM 00012 WDCM 00023	
<i>Escherichia coli</i>	WDCM 00012	Total inhibition on TSA

TABLE OF SYMBOLS

 Batch code	 Do not reuse	 Manufacturer	 Use by	 Fragile, handle with care
 Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Consult instructions for use	



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