

## TM 1510 -BOLTON BROTH BASE (ISO 10272-1:2017)

### INTENDED USE

For selective enrichment of *Campylobacter* species from foods.

### PRODUCT SUMMARY AND EXPLANATION

Foods of animal origin are the primary vehicles of *Campylobacter* infections in humans. Unpasteurized milk has been by far the most commonly implicated vehicle in the foodborne outbreaks of *Campylobacter jejuni* enteritis. *Campylobacter* were originally classified within the genus *Vibrio*, but they differ from *Vibrios* in their DNA Base composition and their ability to grow under conditions of reduced oxygen tension. Selective media were originally designed to isolate *Campylobacter jejuni* from faeces, by use of a cocktail of antibiotics in a rich basal medium. Bolton Broth Base is formulated as per recommendations of ISO for the selective enrichment of *Campylobacter* species from foods. The media is made selective for *Campylobacter* by addition of the antibiotics cefoperazone, vancomycin, trimethoprim and amphotericin B. These antibiotics are added as freeze dried supplements.

### COMPOSITION

Ingredients	Gms / Ltr
Enzymatic digest of animal tissues	10.000
Lactalbumin hydrolysate	5.000
Yeast extract	5.000
Sodium chloride	5.000
alpha-ketoglutaric Acid	1.000
Sodium carbonate	0.600
Sodium metabisulphite	0.500
Sodium pyruvate	0.500
Hemin	0.010

### 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, Cefoperazone 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 molds.

### INSTRUCTION FOR USE

- Dissolve 27.6 grams in 1000ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool at 45 – 50°C
- Aseptically add 50 ml Lysed Horse Blood and 2 vials of Bolton selective supplement (TS 179)
- Mix well and aseptically dispense into sterile tubes.

### QUALITY CONTROL SPECIFICATIONS

<b>Appearance of Dehydrated powder</b>	:	Light yellow to brownish yellow, homogeneous free flowing powder
<b>Appearance of Prepared medium</b>	:	
Basal medium	:	Brownish yellow colored, clear to slightly opalescent solution
After addition of lysed horse blood	:	Red to brown colored, opaque solution in tubes
<b>pH (at 25°C)</b>	:	7.4± 0.2

### INTERPRETATION

Cultural characteristics observed after an incubation at 35-37°C for 4-6 hours and then at 41.5°C for 40-48 hours with added Bolton Selective Supplement (TS 179).

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery
<i>Campylobacter col</i>	33559	50-100	Good-Luxuriant	>=50%
<i>Campylobacter jejuni</i>	29428	50-100	Good-Luxuriant	>=50%
<i>Candida albicans</i>	10231	≥1000	Inhibited	0%
<i>Escherichia coli</i>	25922	≥1000	Inhibited	0%

### PACKAGING:

In 500 gm packaging size.

### STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°C and protect from direct Sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










**Product Deterioration:** Do not use, if powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

### DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

### 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).

 GMP Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**

**Revision: 8<sup>th</sup> July 2020**

