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

INTENDED USE

For selective enrichment of *Campylobacter* species from foods

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

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. Campylobacters 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 Campylobacters by addition of the antibiotics cefoperazone, vancomycin, trimethoprim and amphotericin B. These antibiotics are added as freeze dried supplements.

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, Cefopeerazone 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.

INSTRUCTION FOR USE

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

QUALITY CONTROL SPECIFICATIONS

Appearance of dehydrated Powder: Light yellow to brownish yellow homogeneous free flowing powder
Appearance of prepared medium:
Basal medium: Brownish yellow coloured clear to slightly opalescent solution.
After addition of lysed horse blood: Red to brown coloured opaque solution in tubes.
pH :7.4 ±0.2

INTERPRETATION

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

Microorganisms	ATCC	Inoculum (CFU)	Growth
Candida albicans	10231	≥ 1000	Inhibited
Campylobacter col	33559	50-100	Good-luxuriant
Campylobacter jejuni	29428	50-100	Good-luxuriant
Escherichia coli	25922	≥ 1000	Inhibited

STORAGE & STABILITY

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.

REFERENCES

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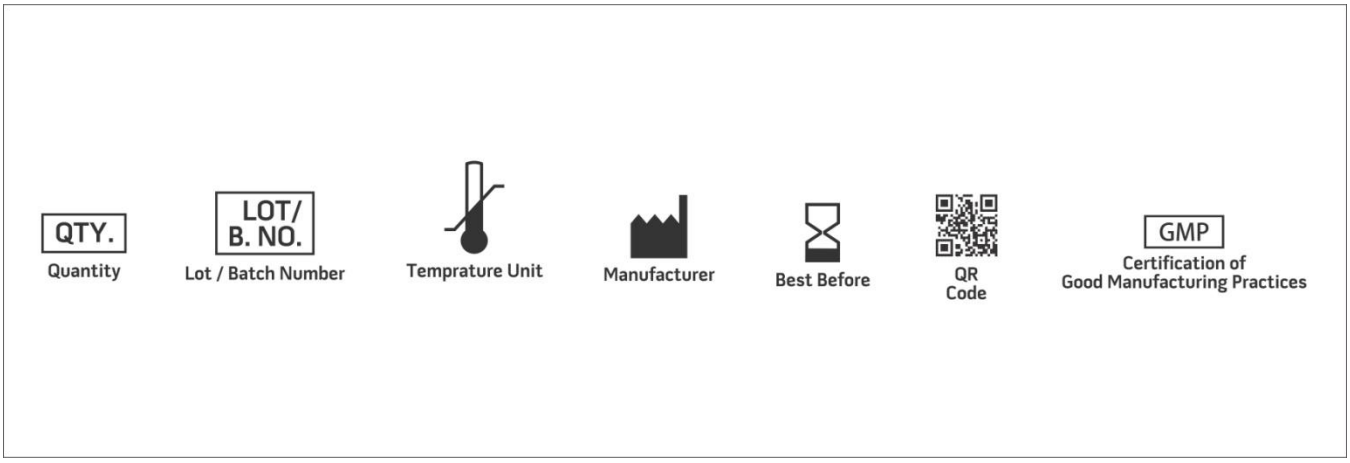
3. Corry, Curtis and Baird. Culture Media For Food Microbiology, Vol.34. Progress in Industrial Microbiology, 1995, Elsevier, Amsterdam.
4. Hunt J.M, Campylobacter, F.D.A Bacteriological Analytical Manual, 8th Edition (Revision AOAC, Arlington V A (1998).
5. Bolton F. J., Personal communication (1995).
6. International Organization for Standardization (ISO), 2006, Draft ISO 10272- 1:2006 (E).



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