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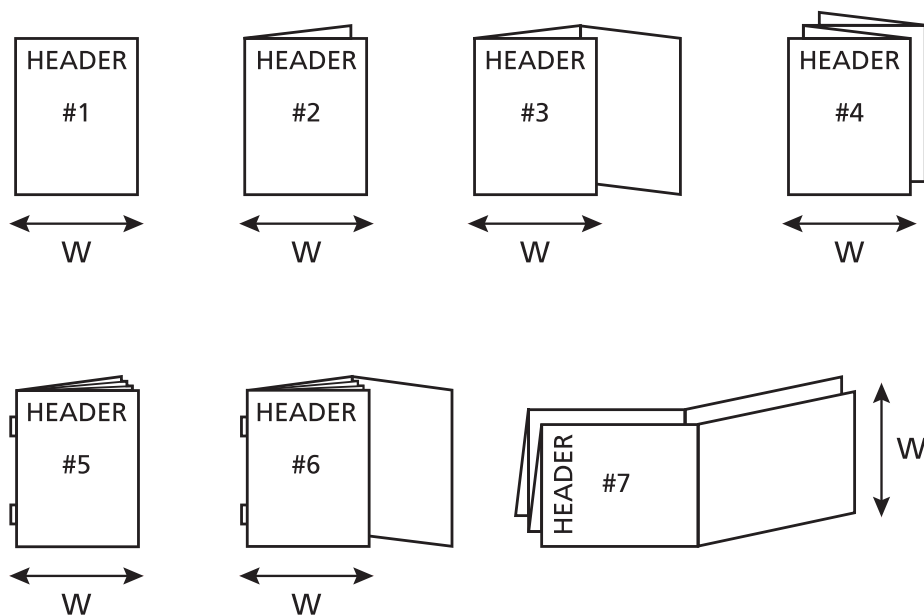
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BD BBL™ Prepared Tubed Medium for Cultivation of Anaerobic Bacteria

Chopped Meat Carbohydrate Broth, PR II

R_x Only



8815191JAA(02)
2019-03

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INTENDED USE

BD BBL™ Chopped Meat Carbohydrate Broth, PR II (pre-reduced medium in Hungate tubes) is a general-purpose medium for the enrichment and cultivation of anaerobic microorganisms, particularly obligate anaerobes.

SUMMARY AND EXPLANATION

BD BBL Chopped Meat Carbohydrate Broth, PR II (pre-reduced) is a general enrichment broth medium that supports growth of most anaerobes, provides a backup source of culture material if an anaerobic jar or chamber fails and for enrichment of small numbers of organisms.¹ It may be used for subculture and enrichment of anaerobic isolates for chromatographic analysis and tests to determine proteolysis (meat digestion), spore formation, motility and toxin production, particularly by *Clostridium* species, and as a holding or stock culture maintenance medium.²

The use of BD BBL Chopped Meat Carbohydrate Broth, PR II is based on Hungate's methods of culturing anaerobic microorganisms outside of an anaerobic chamber.³ The tubes provide a reduced medium in a self-contained, anaerobic culture tube sealed using a Hungate screw cap. The cap contains a butyl rubber septum stopper that permits inoculation and incubation without exposing the medium to air.

PRINCIPLES OF THE PROCEDURE

Pre-reduced medium provides an anaerobic nitrogen and hydrogen atmosphere. The tubes are packaged under oxygen-free conditions and sealed to prevent aerobiosis.

Chopped meat pellets and enzymatic digest of casein provide amino acids and other nitrogenous substances to support bacterial growth. Yeast extract primarily provides the B-complex vitamins, glucose is a source of energy and the phosphate is incorporated to maintain the pH of the medium. Cellobiose, maltose and starch provide additional energy sources. Hemin and vitamin K₁ are required by certain anaerobic species for growth and may improve the growth of other species.⁴

The reducing action of the meat particles and L-cysteine binds molecular oxygen. The reducing agents are required to maintain a low Eh. Resazurin is an oxidation-reduction indicator used to detect changes in the Eh of the medium. The medium remains colorless if the Eh remains low; increased oxidation causes the medium to become pink.

REAGENTS

BD BBL Chopped Meat Carbohydrate Broth, PR II

Approximate Formula* Per Liter Purified Water

Chopped Meat Pellets	10.2	g
Pancreatic Digest of Casein	30.0	g
Yeast Extract	5.0	g
Glucose	4.0	g
Dipotassium Phosphate	5.0	g
Cellobiose	1.0	g
Maltose	1.0	g
Starch	1.0	g
L-Cysteine HCl	0.5	g
Resazurin	0.001	g
Vitamin K ₁	1.0	mg
Hemin	5.0	mg

*Adjusted and/or supplemented as required to meet performance criteria.

Warnings and Precautions

For *in vitro* Diagnostic Use

This product contains dry natural rubber.

Tubes with tight caps should be opened carefully to avoid injury due to breakage of glass.

Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared tubes, specimen containers and other contaminated materials must be sterilized by autoclaving before discarding.

Storage Instructions: On receipt, store tubes in the dark at 2 to 25°C.

Avoid freezing and overheating. Do not open until ready to use. Minimize exposure to light. Tubed media stored as labeled until just prior to use may be inoculated up to the expiration date and incubated for recommended incubation times. Allow the medium to warm to room temperature before inoculation.

Product Deterioration: Do not use tubes if they show evidence of microbial contamination or other signs of deterioration.

Tubes should be discarded if greater than one-third of the medium becomes oxidized (pink).

SPECIMEN COLLECTION AND HANDLING

This medium is not intended for use directly with specimens, except as a "back-up" enrichment broth in addition to primary plating media. Consult appropriate texts for information.^{1,5}

PROCEDURE

Material Provided: BD BBL Chopped Meat Carbohydrate Broth, PR II

Materials Required But Not Provided: Ancillary culture media, reagents, quality control organisms and laboratory equipment as required for this procedure.

Test Procedure: Observe aseptic techniques. Before inoculating, disinfect the septum of the cap. To inoculate, insert needle through the septum and inject the specimen into the medium. Withdraw the needle slowly to avoid introducing air into the tube.

Organisms for subculture into this medium should first be isolated in pure culture on an appropriate solid medium. Prepare a suspension of the pure culture in 0.5 to 1.0 mL of sterile, reduced broth and inoculate the tube with one or two drops.

For enrichment purposes, inoculate the pre-reduced medium with one or two drops of the specimen after inoculating appropriate primary plating media. Prepare tissues and other solid specimens by mincing and grinding the specimen in 0.5 to 1.0 mL of sterile, reduced broth and inoculate the tube with one or two drops.

Incubate the tubes at 35 ± 2°C for up to a week before discarding as negative. For suspected actinomycoses, osteomyelitis, endocarditis and other serious infections incubate the tubes for up to 2 weeks before discarding as negative.

User Quality Control:

- 1. Examine tubes for signs of deterioration as described under “Product Deterioration.”
- 2. Check performance by inoculating representative samples of tubes with pure cultures of stable control organisms that produce known, desired reactions. The following test strains are recommended:

TEST STRAIN	EXPECTED RESULT
<i>Clostridium perfringens</i> ATCC® 13124	Growth

Quality control requirements must be performed in accordance with applicable local, state and/or federal regulations or accreditation requirements and your laboratory’s standard Quality Control procedures. It is recommended that the user refer to pertinent CLIA regulations for appropriate Quality Control practices.

RESULTS

Examine the medium for blackening of meat particles, indicating digestion. Consult references for information needed for chromatographic analyses and tests for indole production, toxin production and spore formation.⁵⁻⁸

LIMITATIONS OF THE PROCEDURE

Enrichment broths should not be used as the sole isolation medium. They are intended to be used in conjunction with selective and nonselective plating media to increase the probability of isolating pathogens, especially when they may be present in small numbers.

For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.⁵⁻¹⁰

PERFORMANCE CHARACTERISTICS

Prior to release, all lots of BD BBL Chopped Meat Carbohydrate Broth, PR II are tested for performance characteristics. Representative samples of the lot are inoculated directly with a loopful of *Clostridium perfringens* ATCC 13124 grown in BD BBL Chopped Meat Medium. Tubes are incubated anaerobically, with tight caps, at 35–37 °C for up to three days. Growth is observed with both organisms.

AVAILABILITY

Cat No. Description

297307 BD BBL™ Chopped Meat Carbohydrate Broth, PR II, 5 mL, Pkg of 10 size K tubes

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Technical Information: In the United States contact BD Technical Service and Support at 1.800.638.8663 or www.bd.com.

Change History

Revision	Date	Change Summary
(02)	2019-03	Deleted <i>Porphyromonas levii</i> organism. Added IVD symbol and CE mark.

US Customers only: For symbol glossary, refer to www.bd.com/symbols-glossary.

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