

Anaerobic Basal Broth

M1636

Anaerobic basal broth is recommended for the growth of anaerobic microorganisms, particularly *Bacteroides* species and other fastidious anaerobes.

Composition**

Ingredients	Gms / Litre
Peptone	16.000
Yeast extract	7.000
Sodium chloride	5.000
Starch	1.000
Dextrose	1.000
Sodium pyruvate	1.000
Arginine	1.000
Sodium succinate	0.500
Sodium bicarbonate	0.400
L-Cysteine HCl	0.500
Ferric pyrophosphate	0.500
Hemin	0.005
Vitamin K	0.0005
Dithiothreitol	1.000
Sodium thioglycollate	0.500

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 35.4 grams in 1000 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 50-55°C and aseptically add 5-10% v/v sterile defibrinated horse blood. Mix well and dispense as desired.

Principle And Interpretation

Bacteroides are major bacteria found in the human normal flora, harboring in the intestinal tract. They are generally opportunistic anaerobes and can cause a variety of infections throughout the body. The most common infections include pleuropulmonary, intraabdominal and infections of the female urogenital tract. *Bacteroides* make up about one-third of the total anaerobic isolates obtained from various infections. Anaerobic Basal broth is recommended for fastidious anaerobes like *Bacteroides* species. Anaerobic organisms require reducing conditions and an absence of dissolved oxygen in the medium. Strict anaerobes obtain its energy and intermediates through oxidation utilizing hydrogen acceptors other than oxygen. Pre-reducing the medium by boiling to drive off the oxygen can expel this. Also reducing agents such as thioglycollate or cysteine can be added to the medium (1).

Anaerobic Basal broth contains peptone and yeast extract which provides nitrogen and carbon source, long chain amino acids and necessary vitamins for growth of *Bacteroides*. Starch absorbs toxic metabolites produced (2). Sufficient arginine is added to ensure the growth of *Eubacterium lentum* (3). Hemin and Vitamin K serve as growth factors for many *Bacteroides* species (4). Sodium succinate improves the growth of *Prevotella melaninogenica* and *Bacteroides* species (5). Sodium pyruvate is the energy source and also acts similarly to catalase and degrades traces of hydrogen peroxide, which may be produced by the action of molecular oxygen on media components (6). L-cysteine hydrochloride and dithiothreitol act as reducing agents. (7).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Basal medium: Light amber coloured clear to slightly opalescent. After addition of 5% w/v sterile defibrinated blood : Cherry red coloured opaque solution in tubes

Cultural Response

M1636: Cultural characteristics observed with added 5% w/v sterile defibrinated blood, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response		
<i>Peptostreptococcus anaerobius ATCC 27337</i>	50-100	luxuriant
<i>Prevotella melaninogenicus ATCC 15930</i>	50-100	luxuriant
<i>Clostridium perfringens ATCC 13124</i>	50-100	luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

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