Yeast Glucose Beef Broth

M965

Yeast Glucose Beef Broth is used for the cultivation of lactic Streptococci for determining growth characteristics.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Beef extract	10.000
Yeast extract	3.000
Sodium chloride	5.000
Dextrose	5.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 33 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely and dispense as desired. Sterilize by autoclaving at 15 lbs pressure (121ºC) for 15 minutes.

Principle And Interpretation

The Lactic Acid Bacteria (LAB) comprise a clad of gram positve low-GC, acid tolerant, non-sporulating, non-respiring rod or cocci that are associated by their common metabolic and physiological characteristics. These bacteria produce lactic acid as the major metabolic endproduct of carbohydrate fermentation. The industrial importance of the LAB is evidenced by their generally regarded safe (GRAS) status, due to their ubiquitous appearance in food and their contribution to the healthy microflora of human mucosal surfaces. The genera that comprise the LAB are at its core *Lactobacillus* , *Leuconostoc* , *Pediococcus* , *Lactococcus* , and *Streptococcus* as well as the more peripheral *Aerococcus* , *Carnobacterium* , *Enterococcus* , *Oenococcus* , *Teragenococcus* , *Vagococcus* and *Weisella* (1, 2).

Lactococci (formerly Lancefield group N streptococci) are used extensively as starter innocula in dairy fermentations, with humans estimated to consume 1018 lactococci annually. Partly due to their industrial relevance, both *Lactococcus lactis* subspecies (lactis and cremoris) are widely used as generic LAB models for research. Yeast Glucose Beef Broth is used for the cultivation of actic Streptococci (3).

Dextrose provides an energy source for the growth of microorganisms. Yeast extract, peptic digest of animal tissue and beef extract provide the necessary growth factors and nutrients. Sodium chloride helps to maintain osmotic balance of the cells.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Light amber coloured clear solution without any precipitate in tubes.

Reaction
Reaction of 3.3% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
M965: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Growth
Leuconostoc dextranicum	good-luxuriant
Streptococcus cremoris ATCC 19257	good-luxuriant

Lactobacillus lactis ATCC 8000	good-luxuriant
Streptococcus thermophilus ATCC 14485	good-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

1. Holzapfel, WH; Wood, BJB (eds.). (1998). The genera of lactic acid bacteria, 1st ed., London Blackie Academic & Professional.
2. Salminen, S.; von Wright, A; and Ouwehand, AC (eds.). (2004). Lactic Acid Bacteria: Microbiological and Functional Aspects, 3rd ed., New York: Marcel Dekker, Inc.
3. Atlas R.M, 2004, Handbook of Microbiological Media, Lawrence C. Parks (Ed.), 3rd Edition, CRC Press.

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