TM 575 - YEAST GLUCOSE BEEF BROTH

INTENDED USE

For cultivation of lactic Streptococci for determining growth characteristics.

PRODUCT SUMMARY AND EXPLANATION

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*.

Lactococci (formerly Lancefield group N streptococci) are used extensively as starter inoculate 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.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	10.000
Beef extract	10.000
Yeast extract	3.000
Sodium chloride	5.000
Dextrose	5.000

PRINCIPLE

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.

INSTRUCTION FOR USE

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

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light amber coloured clear solution without any precipitate in tubes.
pH (at 25°C)	: 7.0±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Streptococcus cremoris	19257	50-100	Good-luxuriant	35 - 37°C	18-24 Hours
Lactobacillus lactis	8000	50-100	Good-luxuriant	35 - 37°C	18-24 Hours
Streptococcus thermophilus	14485	50-100	Good-luxuriant	35 - 37°C	18-24 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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.
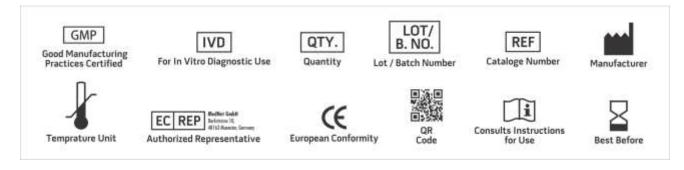**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

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

REFERENCES
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.

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.
*For Lab Use Only
Revision: 08 Nov., 2019