

TM 1370 – LACTOBACILLI BULGARICUS AGAR BASE

INTENDED USE

For isolation and identification of *Lactobacillus bulgaricus*.

PRODUCT SUMMARY AND EXPLANATION

Lactobacillus bulgaricus (*Lactobacillus delbrueckii* subsp. *bulgaricus*) is one of several bacteria used for the production of Kisselo mlyako (Bulgarian) - "Sour milk" yoghurt (yogurt). The bacterium was first identified in 1905 by the Bulgarian Doctor Stamen Grigorov. It is named after Bulgaria, the country where it was first used. The bacterium feeds on milk and produces lactic acid which also helps to preserve the milk.

Lactobacillus Bulgaricus Agar was originally formulated by Kulp and White for the recovery of *Lactobacilli*. Further modification is recommended by APHA for isolation and identification of *L. bulgaricus* from foods. *Streptococcus thermophilus* and *L. bulgaricus* are the essential microbial species and are active in symbiotic relationship in yoghurt. Because of the emphasis on maintaining a balance between cocci and rods, techniques are needed to determine the relative proportions of *S. thermophilus* and *L. bulgaricus* when grown together in milk cultures.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Beef extract	10.000
Dextrose	20.000
Dipotassium phosphate	2.000
Tomato juice	2.000
Polysorbate 80	1.000
Agar	20.000

PRINCIPLE

This medium consists of Casein enzymic hydrolysate, yeast extract and beef extract which provide nitrogenous compounds, minerals, vitamins and trace ingredients. Polysorbate 80 supplies fatty acids required for the metabolism of *Lactobacilli*. Dextrose is the fermentable carbohydrate. Tomato juice along with acetate maintains the low pH of the medium and thus inhibits microorganisms other than *Lactobacilli*. Acetate also restricts the swarming of *L. bulgaricus* and along with dipotassium phosphate forms the buffering system.

INSTRUCTION FOR USE

- Dissolve 70.0 grams in 920 ml purified/distilled water and heat to boiling to dissolve the medium completely.
- Add 80 ml Acetate Buffer (11.355% Sodium acetate and 0.99% Acetic acid).
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. DO NOT OVERHEAT THE MEDIUM.
- Mix well and pour into sterile Petri plate.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Medium amber coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 6.8 ± 0.2

INTERPRETATION

Cultural characteristics observed with added acetate buffer after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Lactobacillus bulgaricus</i>	11842	50-100	Good-luxuriant	≥50%	35-37°C	18-48 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 2-8°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. Kulp W. L. and White V., 1932, Science, 76:17.
2. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

 Good Manufacturing Practices Certified	 Best Before	 Quantity	 Catalogue Number	 Manufacturer
 Temperature Unit	 Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

*For Lab Use Only
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