

TM 871 - STREPTOCOCCUS THERMOPHILUS ISOLATION AGAR

INTENDED USE

For determination of the ratio of *Streptococcus thermophilus* and *Lactobacillus bulgaricus* in yoghurt.

PRODUCT SUMMARY AND EXPLANATION

Yoghurt is a fermented milk product in which *Streptococcus thermophilus* and *Lactobacillus bulgaricus* are the essential microbial species and are active in a symbiotic relationship. To obtain optimum consistency, flavour and odour, the two species should be present in about equal numbers in the culture. Dominance by either species can cause defects. Equal numbers of both the species produce desirable yoghurt. Streptococcus Thermophilus Isolation Agar, recommended by APHA, is used for determining the ratio of *S. thermophilus* and *L. bulgaricus* in yoghurt. Streptococcus Thermophilus Isolation Agar is based on the formulation originally developed by Lee et al. However later on Driessen et al reported two separate media to enumerate cocci and rods respectively from mixed cultures where *S. thermophilus* is grown on Streptococcus Thermophilus Isolation Agar and *L. bulgaricus* is cultivated on Lactococcus Bulgaricus Agar (LB Agar).

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	10.000
Yeast extract	5.000
Sucrose	10.000
Dipotassium phosphate	2.000
Agar	15.000

PRINCIPLE

The medium contains sucrose, which is not fermented by majority of the *L. bulgaricus* strains but is readily utilized by *S. thermophiles*. However, if lactose is incorporated in this medium it is utilized by both the species. With a suitable combination of sucrose and lactose, the rate of acid production by *S. thermophilus* is enhanced while that of *L. bulgaricus* is restricted. Casein enzymic hydrolysate and yeast extract provide nitrogenous nutrients, vitamin B complex and trace elements for the growth of *S. thermophiles*. Dipotassium phosphate prevents pH imbalance in the medium.

INSTRUCTION FOR USE

- Dissolve 42 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

QUALITY CONTROL SPECIFICATIONS

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

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
<i>Lactobacillus bulgaricus</i>	11842	50-100	Luxuriant	>=70%	35-37°C	48-72 Hours
<i>Streptococcus thermophilus</i>	14485	50-100	Luxuriant	>=70%	35-37°C	48-72 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.







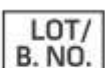


Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

- Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
- Lee S. Y., Vedomuthu E. R., Washam C. J. and Reinbold G. W., 1974, J. Milk Food Technol., 37:272.
- Driessen F. M., Ubbels J. and Stadhouders J., 1977, Biotechnol. Bioeng., 19:821.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. 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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