

ESTY MEDIUM

CAT N°: 1555

Selective medium for the enumeration of *Streptococcus thermophilus* in yogurt

FORMULA IN g/l

Disodium Glycerophosphate	19.00	Yeast Extract	2.50
Tryptone	5.00	Ascorbic Acid	0.50
Soy Peptone	5.00	Magnesium Sulfate	0.25
Beef Extract	5.00	Bacteriological Agar	11.00

Final pH 6.9 ± 0.2 at 25°C

PREPARATION

Suspend 48.30 grams of the medium in 950 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C and aseptically add 5 grams of lactose (Cat. 1905), previously reconstituted in 50 ml of distilled water. Sterilize lactose solution by membrane filtration. Homogenize gently and dispense into Petri dishes. The prepared medium should be stored at 8-15°C. The color of the prepared medium is amber.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

USES

ESTY MEDIUM is a recommended medium for the growth of lactic streptococci and their bacteriophages from yogurt and other dairy products.

This medium has been recommended by the International Dairy Federation for this use.

This medium is recommended for *Streptococcus thermophilus* isolation and enumeration in yogurt. Lactic streptococci produce acid and are difficult to grow. They are nutritionally fastidious and demand complex culture media for optimum growth. The Glycerophosphate present in high concentrations acts as a pH regulator and inhibits *Lactobacillus bulgaricus* development while the Ascorbic Acid promotes the growth of lactic streptococci.

Beef extract, Tryptone and Soy peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is a source of vitamins, particularly of the B-group. Disodium glycerophosphate is a buffering agent. Ascorbic acid promotes the growth of Lactic streptococci. Magnesium sulphate is a magnesium ion required in a large variation of enzymatic reactions, including DNA replication, and also acts as a buffer. Bacteriological Agar is the solidifying agent.

Inoculate and incubate at 35 ± 2°C for 24-48 hours.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 24-48 hours.

Microorganisms	Growth
<i>Lactobacillus bulgaricus</i> ATCC 11842	Inhibited
<i>Streptococcus thermophilus</i> ATCC 14486	Good

BIBLIOGRAPHY

Terzaghi, B.E. and W. E. Sandine. 1975 Improved medium for *lactic streptococci* and their bacteriophages. Appl. Microbiol 29:807-813.
International Dairy Federation 1981. Identification and enumeration of micro-organisms in fermented milks. Joint IDF/ISO/AOAC.

STORAGE

Once opened keep powdered medium closed to avoid hydration.

