ESTY BROTH

CAT Nº: 1254

For the cultivation of *Streptococcus thermophilus* in yogurt

FORMULA IN g/l

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

Final pH 6.9 ± 0.2 at 25ºC

PREPARATION

Suspend 37.25 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. Dispense into appropriate containers and sterilize in autoclave at 121ºC for 15 minutes. Cool to 45-50ºC and aseptically add 5 grams of lactose (Cat. 1905), previously reconstituted in 50 ml of distilled water. Sterilize lactose solution by membrane filtration. The prepared medium should be stored at 2-8°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 BROTH is a medium recommended for the growth of lactic streptococci and their bacteriophages from yogurt and other dairy products.

This medium is ~~a~~ 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. It is recommended for the maintenance of the initial cultures that produce acids in their metabolism.

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 with 1 ml of inoculum and incubate at 30 ± 2ºC during 72 hours for mesophilic streptococci and for *Streptococcus thermophilus* at 35 ± 2ºC during 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
Lactobacillus bulgaricus ATCC 11842	Inhibited
Streptococcus thermophilus ATCC 14486	Good

BIBLIOGRAPHY

Reiter B., and J.D. Oram. 1962. Nutritional studies on cheese starters. I. Vitamin and aminoacid requirements of single strain starters. J. Dairy Res.
International Dairy Federation 1981 Identification and enumeration of microorganisms in fermented milks.

STORAGE

Once opened keep powdered medium closed to avoid hydration.