

Elliker Medium

For the cultivation of streptococci and lactobacilli in dairy products.

Practical information

| Applications | Categories |
|----------------------|---------------|
| Selective enrichment | Lactobacilli |
| Selective enrichment | Streptococcus |

Industry: Dairy products

Principles and uses

Elliker Medium, also known as Lactobacilli Broth, is a medium recommended for the general cultivation of streptococci and lactobacilli.

Testing dairy products for lactic acid bacteria facilitates the determination of acid levels, evaluation of lactic starter cultures and helps to control the quality of cured cheese, cultured milks and uncultured products. The medium is prepared according to the formula of Elliker, which has a slightly acidic pH and contains sufficient nutrients to support the growth of these gram-positive microorganisms.

Gelatin, tryptone and yeast extract provide the essential nutrients for growth. Lactose, sucrose and dextrose are the fermentable carbohydrates providing carbon and energy. Ascorbic acid provides adequate acid conditions. Sodium chloride supplies essential electrolytes for transport and osmotic balance and sodium acetate is the selective agent inhibiting gram-negative bacteria and also acts as a buffer system.

Formula in g/L

| | | | |
|----------------|-----|-----------------|-----|
| Dextrose | 5 | Ascorbic acid | 0,5 |
| Gelatin | 2,5 | Lactose | 5 |
| Sodium acetate | 1,5 | Sodium chloride | 4 |
| Sucrose | 5 | Tryptone | 20 |
| Yeast extract | 5 | | |

Preparation

Suspend 48,5 grams of the medium in one liter 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 121 °C for 15 minutes.

Instructions for use

Inoculate and incubate and 35±2 °C for 18-48 hours, except for Streptococcus cremoris which is incubated at 30±2 °C.

Quality control

| Solubility | Appearance | Color of the dehydrated medium | Color of the prepared medium | Final pH (25°C) |
|------------|-------------|--------------------------------|------------------------------|-----------------|
| w/o rests | Fine powder | Pale amber | Clear amber | 6,8±0,2 |

Microbiological test

Incubation conditions: (35±2 °C / 18-48 h).

| Microrganisms | Specification |
|---|---------------|
| Lactococcus lactis ssp. lactis ATCC 19435 | Good growth |
| Lactobacillus casei ATCC 393 | Good growth |

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

Elliker, P.R.A. W. Anderson and G. Hannesson 1956. An agar culture medium for lactic acid streptococci and lactobacilli. J. Dairy Sci. 39:1611 Splittstoeg.
Vanderzant C. and D.F. Splittstoeg 1992. Compendium of methods for the microbiological association of food, APHA 3rd edition.

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