

Lauryl Sulphate Tryptose Broth Modified (mLST)

Cat. 1445

For the selective enrichment of Cronobacter sakazakii

Practical information

| Applications | Categories |
|----------------------|----------------|
| Selective enrichment | Enterobacteria |

Industry: Food / Dairy products

Principles and uses

Lauryl Sulphate Tryptose Broth Modified (mLST) is recommended for the selective enrichment of Cronobacter sakazakii in milk powder and powdered infant formula. C. sakazakii is currently considered an emerging pathogen responsible for unweaned babies, risking severe meningitis and necrotic enterocolitis that can be the cause of a mortality rate between 40 and 80%.

The pathogenicity of Cronobacter sakazakii for unweaned babies makes it necessary to review the manufacturing process of the products intended for babies, guaranteeing the absence of the bacteria in the final product. Additional prevention measures at hospitals include the sanitary hygiene of the prepared media, reducing the time between the preparation and its administration, to impede the multiplication of microorganisms.

Enzymatic digest of plants and animal tissue provide nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Potassium phosphates act as a buffer system Lactose is the fermentable carbohydrate providing carbon and energy. Sodium lauryl sulfate is the selective agent, inhibiting many organisms except coliforms.

The ISO normative 22964 recommended this medium as a selective enrichment with the addition of Vancomycin and incubation at 44°C. All the tubes must be subcultured in the chromogenic agar for the isolation of Cronobacter sakazakii ESIA (Cat. 1446).

Formula in g/L

| | | | |
|--|------|-----------------------|-----|
| Dipotassium phosphate | 2,75 | Lactose | 5 |
| Monopotassium phosphate | 2,75 | Sodium chloride | 34 |
| Enzymatic Digest of Plants & Animal Tissue | 20 | Sodium lauryl sulfate | 0,1 |

Preparation

Suspend 32,3 grams of the medium in 500 ml of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Autoclave at 121°C for 15 minutes. Cool to 45-50°C and aseptically add 1 vial of Vancomycin Supplement (Cat. 6072). Homogenize gently and dispense into tubes in amounts of 10 ml.

Instructions for use

Inoculation method:

- Take the inoculum with a sterile loop.
- Submerge the handle into the medium and shake gently.
- Incubate at 44±0,5 °C and observe for 24±2 hours.

Quality control

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

Microbiological test

Incubation conditions: (44±0,5 °C / 24±2 h).

Microorganisms

Staphylococcus aureus ATCC 25923
Enterococcus faecalis ATCC 29212
Cronobacter sakazakii ATCC 29544
Escherichia coli ATCC 8739

Specification

Inhibited growth
Inhibited growth
Good growth
Good growth

Storage

Temp. Min.:2 °C
Temp. Max.:25 °C

Bibliography

ISO/TS 22964 Milk and milk products- Detection of Enterobacter sakazakii
GUILLAUME-Gentil, O., Sonnard, V. Kandahai, M.C., Mauragg, J.D. and Jootsen, H. A simple and Rapad Cultural Method for Detection of Enterobacter sakazakii in environmental samples. Journal of Food. Protection, 68 (1), 2005, pp. 64-69