

LAURYL SULPHATE TRYPTOSE BROTH MODIFIED (mLST) ISO 22964

CAT N°: 1445

For the selective enrichment of *Enterobacter sakazakii*

FORMULA IN g/l

Sodium Chloride	34.00	Monopotassium Phosphate	2.75
Enzymatic Digest of Plants & Animal Tissue	20.00	Dipotassium Phosphate	2.75
Lactose	5.00	Sodium Lauryl Sulfate	0.10

Final pH 6.8 ± 0.2 at 25°C

PREPARATION

Suspend 64.6 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 10ml tubes and sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50°C and aseptically add 0.1 ml of Vancomycin Supplement (10mg/10ml) to the 10ml of Lauryl Sulphate Tryptose Broth Modified (final concentration 10 µg/ml of m LST Broth). The prepared medium should be stored at 2-8°C. The color is amber.

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

USES

LAURYL SULPHATE TRYPTOSE BROTH MODIFIED (mLST) is recommended for the selective enrichment of *Enterobacter sakazakii* in milk powder and powered infant formula. *E. 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 *Enterobacter 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 & 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 recommends 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 *Enterobacter sakazakii* ESIA Cat. 1446.

Incubate at 44 ± 0.5°C and observe for 24 ± 2 hours.

MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 44 ± 0.5°C and observed after 24 ± 2 hours.

Microorganisms	Growth
<i>Escherichia coli</i> ATCC 25922	Good
<i>Escherichia coli</i> ATCC 8739	Good
<i>Enterobacter sakazakii</i> ATCC 29544	Good
<i>Staphylococcus aureus</i> ATCC 25923	Inhibited
<i>Enterococcus faecalis</i> ATCC 29212	Inhibited

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.

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STORAGE

Once opened keep powdered medium closed to avoid hydration.



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