

## LAURYL SULFATE TRYPTOSE BROTH (LST) with MUG

Selective medium for the fluorogenic detection of *Escherichia coli* in water and food.

TYPICAL FORMULA	(g/l)
Tryptose	20.0
Lactose	5.0
Dipotassium Phosphate	2.75
Monopotassium Phosphate	2.75
Sodium Chloride	5.0
Sodium Lauryl Sulfate	0.1
L-Tryptophan	1.0
4-Methylumbelliferyl- $\beta$ -D-glucuronide (MUG)	0.1
Final pH 6.8 $\pm$ 0.2 at 25°C	

### DESCRIPTION

LAURYL SULFATE TRYPTOSE BROTH (LST) with MUG is a selective medium for the fluorogenic detection of *Escherichia coli* in water and food.

### PRINCIPLE

Tryptose provides nitrogen, vitamins, minerals and amino acids essential for growth. Lactose is the fermentable carbohydrate. Potassium phosphates are the buffering agents and sodium chloride supplies essential electrolytes for the osmotic balance. Sodium lauryl sulfate is the selective agent used to inhibit organisms other than coliforms. The presence of MUG permits the rapid detection of *E. coli* which hydrolyzes this compound to yield a fluorogenic product detectable under (366 nm) UV light. L-Tryptophan is added to the medium to perform directly the indole test and confirm the results.

### PREPARATION

Prior to inoculation, the medium should be brought to room temperature. Refrigerated broth becomes cloudy or forms a precipitate. Media will clear when brought to room temperature. Clarity of the medium is not a criterion for a positive test.

### TECHNIQUE

Inoculate the tubes using at least 1 ml of broth. Incubate at 35 $\pm$ 2°C in aerobic atmosphere for 18-24 hours. After 24 hours, check the tubes under UV light (366 nm).

### INTERPRETATION OF RESULTS

Turbidity indicates microbial growth. In case of gas production from lactose fermentation the Durham tubes rise or/and show bubbles. Under UV light a light blue fluorescence indicates the presence of *E. coli*. If fluorescence is negative after 24 hours incubate for another 24 hours. To confirm detection, pipette some drops of KOVAC'S Reagent (ref. 80271) into the broth culture. If the reagent layer becomes cherry red after 1-2 minutes, the presence of *E. coli* is confirmed.

### STORAGE AND TRANSPORT CONDITIONS

2-8°C away from light, until the expiry date on the label. However, our stability studies have shown that the transport at 18-25°C for 4 days, or at 35-39°C for 48 hours, does not alter in any way the performance of the product. Eliminate if signs of deterioration or contamination are evident.

### WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. It is nevertheless recommended to consult the safety data sheet for its correct use. The product must be used only by properly trained operators.

### DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

### REFERENCES

1. Mallmann W.L. and C.W. Darby (1941) Uses of laury sulfate tryptose broth for the detection of coliform organisms. Am. J. Public Health 31:127-134.
2. Clesceri L.S., A.E. Greenberg and A.D. Eaton (1998) Standard methods for the examination of water and wastewater, 20<sup>th</sup> ed. American Public Health Association, Washington, D.C.
3. Feng P.C.S. and P.A. Hartman (1982) Fluorogenic assays for immediate confirmation of *Escherichia coli*. Environ. Microbiol. 43:1320-1329.



**LIOFILCHEM® S.r.l.**

Via Scozia, Zona Ind.le - 64026, Roseto degli Abruzzi (TE) - ITALY  
Tel +39 0858930745 Fax +39 0858930330 Website: [www.liofilchem.net](http://www.liofilchem.net) E-mail: [liofilchem@liofilchem.net](mailto:liofilchem@liofilchem.net)

## PRODUCT SPECIFICATIONS

### NAME

LAURYL SULFATE TRYPTOSE BROTH (LST) with MUG

### PRESENTATION

Glass tubes, with Durham tubes, containing 9 ml of medium

### STORAGE

2-8°C

### PACKAGING

Ref.	Content	Packaging
21457	10 tubes x 9 ml	10 tubes in cardboard box
26457	100 tubes x 9 ml	100 tubes in cardboard box

### pH OF THE MEDIUM

6.8 ± 0.2

### USE

LAURYL SULFATE TRYPTOSE BROTH (LST) with MUG is a selective medium for the fluorogenic detection of *Escherichia coli* in water and food

### TECHNIQUE

Refer to technical sheet of the product

### APPEARANCE OF THE MEDIUM

Appearance: refrigerated broth becomes cloudy or forms a precipitate; media will clear when kept to room temperature  
Colour: yellowish-brown

### SHELF LIFE










1 year

### QUALITY CONTROL

- Control of general characteristics, label and print
- Sterility control  
7 days at 22 ± 1°C, in aerobiosis  
7 days at 36 ± 1°C, in aerobiosis
- Microbiological control  
Inoculum for productivity: 10-100 UFC/ml  
Inoculum for selectivity: 10<sup>4</sup>-10<sup>5</sup> UFC/ml  
Inoculum for specificity: ≤10<sup>4</sup> UFC/ml  
Incubation Conditions: 18-48 h at 35 ± 2°C, in aerobiosis

Microorganisms		Growth	Gas	Fluorescence	Indole
<i>Escherichia coli</i>	ATCC® 25922	Good	+	+	+
<i>Enterobacter aerogenes</i>	ATCC® 13048	Good	+	-	-
<i>Salmonella typhimurium</i>	ATCC® 14028	Good	-	-	-
<i>Staphylococcus aureus</i>	ATCC® 25923	Inhibited	---	---	---

### TABLE OF SYMBOLS

 LOT	Batch code	 Do not reuse	 Manufacturer	 Use by	 Fragile, handle with care
 REF	Catalogue number	 Temperature limitation	 Contains sufficient for <n> tests	 Caution, consult instructions for use	



**LIOFILCHEM® S.r.l.**

Via Scozia, Zona Ind.le - 64026, Roseto degli Abruzzi (TE) - ITALY

Tel +39 0858930745 Fax +39 0858930330 Website: [www.liofilchem.net](http://www.liofilchem.net) E-mail: [liofilchem@liofilchem.net](mailto:liofilchem@liofilchem.net)