LAURYL TRYPTOSE BROTH (LST BROTH)

INTENDED USE
Remel Lauryl Tryptose Broth (LST Broth) (Lauryl Sulfate Tryptose) is a liquid medium recommended for use in qualitative procedures for the detection of coliforms in water, wastewater, and foods.

SUMMARY AND EXPLANATION
Lauryl Tryptose Broth was developed by Mallman and Darby for the detection of coliform organisms in water, wastewater, and foods.[1,2] They evaulated a variety of wetting agents and determined sodium lauryl sulfate added to selective media produced the best results for the detection of the coliform group. The production of gas in Lauryl Tryptose Broth serves as a presumptive test for the presence of coliforms in water and foods. Lauryl Tryptose Broth is recommended by the American Public Health Association, AOAC International (AOAC), and the U.S. Food and Drug Administration for detection of coliforms in water, wastewater, and foods.[3-6]

PRINCIPLE
Casein peptone supplies nitrogen, carbon, and sulfur required for bacterial growth. Lactose is the carbohydrate source fermented by coliforms. Dipotassium phosphate and monopotassium phosphate serve as buffering agents. Sodium chloride supplies essential electrolytes and maintains osmotic equilibrium. Sodium lauryl sulfate is a selective agent that inhibits many organisms other than coliforms. A positive fermentation reaction is indicated by turbidity in the broth and gas bubbles in the inverted Durham tube.

REAGENTS (CLASSICAL FORMULA)*

Casein Peptone	20.0 g	Dipotassium Phosphate	2.75 g
Lactose	5.0 g	Monopotassium Phosphate	2.75 g
Sodium Chloride	5.0 g	Sodium Lauryl Sulfate	0.1 g
		Demineralized Water	1000.0 ml

pH 6.8 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS
This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM
1. Suspend 35.6 g of medium in 1000 ml of demineralized water.
2. Warm slightly to dissolve completely.
3. Dispense as required into test tubes or bottles containing inverted Durham tubes.
4. Sterilize at 121°C for 15 minutes or following established laboratory procedures.

PROCEDURE
1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

INTERPRETATION OF RESULTS
Positive Test - Turbidity with gas production* within 48 hours
Negative Test - Turbidity with no gas production within 48 hours

*Gas production is indicated by the appearance of bubbles in the Durham tube.

QUALITY CONTROL
Each lot number of Lauryl Tryptose Broth has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures.

CONTROL	INCUBATION	RESULTS
Escherichia coli ATCC® 25922	Ambient, 18-24 h @ 33-37°C	Growth w/ gas production
Salmonella enterica serovar Typhimurium ATCC® 14028	Ambient, 18-24 h @ 33-37°C	Growth w/o gas production
Staphylococcus aureus ATCC® 25923	Ambient, 18-24 h @ 33-37°C	Marked to complete inhibition

LIMITATIONS
1. Media may be cloudy or form a precipitate when refrigerated, but clears at room temperature.[7]
2. A bubble in the Durham tube with no turbidity in the broth does not indicate a positive test.

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BIBLIOGRAPHY

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3. Clesceri, L.S., A.E. Greenberg, and A.D. Eaton. 1998. Standard Methods for the Examination of Water and Wastewater. 20th ed. APHA, Washington, D.C.
4. Downes, F.P. and K. Ito. 2001. Compendium of Methods for the Microbiological Examination of Foods. 4th ed. APHA, Washington, D.C.
5. Food and Drug Administration. 2001. Bacteriological Analytical Manual Online. Chapter 4, Revised September 2002. Authors: P. Feng, S.D. Weagant, and M.A. Grant. AOAC International, Gaithersburg, MD.
6. Horwitz, W. 2010. Official Methods of Analysis Online. 18th ed. AOAC International, Gaithersburg, MD.
7. MacFaddin, J.F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol. 1. Williams and Wilkins, Baltimore, MD.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, specimen collection, storage and transportation, materials required, quality control, and limitations.

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remel

12076 Santa Fe Drive, Lenexa, KS 66215, USA
General Information: (800) 255-6730 Website: www.remel.com Email: remel@remel.com
Local/International Phone: (913) 888-0939 International Fax: (913) 895-4128