SNAPSHOOT
ENGINEERED FOR A SAFER TOMORROW

현장을 이해하고, 필요한 솔루션을 연결합니다.

산업안전 · 추락방지 시스템
산업용 소재 · 건축자재
제품 제안부터 공급·시공·설치·교육까지



COMPANY INFORMATION

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TECHNICAL DOCUMENTS

인증서 · 데이터시트 · 기술자료

제품의 규격과 성능, 인증 및 적용 조건을 확인하기 위한 자료입니다.

ABOUT SNAPSHOOT

제품 공급을 넘어, 현장에 맞는 해결책으로

스냅슛은 산업현장의 작업 환경과 요구 조건을 바탕으로
적합한 제품과 시스템을 제안합니다. 현장 실사를 통해 설치 조건을 확인하고,
공급부터 시공·설치 및 사용 교육까지 필요한 과정을 함께합니다.

추락방지 시스템

안전대부착설비 · 수평·수직 라이프라인
레일 시스템 · 리지드 포스트

밀폐공간 진입·구조 솔루션

데빗암 · 삼각대 · 구조용 윈치
윈치 안전블록 · 구조장비

산업안전 보호구

전신형 안전대 · 랜야드 · 안전블록
작업 환경에 맞춘 개인보호구

산업용 소재·건축자재

산업용 테이프 · 접착제 · 기능성 소재
구조용 스크류 · 목조건축 자재

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홈페이지 바로가기 →
문서 라이브러리 바로가기 →
시공사례 바로가기 →
문의하기 →

본 페이지는 스냅슛의 자료 제공 안내용 표지입니다. 첨부된 인증서 및 기술자료의 발행 주체, 인증 대상과 적용 범위는 해당 원문을 기준으로 확인해 주세요.

Record ID: FS-TSS-0242 Revision Number: 1.0 Effective Date: 2023-08-04 12:00 AM EDT

Lauryl Sulfate Broth w/MUG
SKU: 700003169, 700003170, 700003171, 700003172
NCM0071

Intended Use

Lauryl Sulfate Broth W/ MUG is used for the detection of coliforms and the fluorogenic detection of *Escherichia coli* in a laboratory setting. Lauryl Sulfate Broth W/ MUG is not intended for use in the diagnosis of disease or other conditions in humans.

Description

The coliform group of bacteria includes aerobic and facultative anaerobic, Gram-negative, non-sporeforming bacilli that ferment lactose and form acid and gas at 35°C within 48 hours. Members of the *Enterobacteriacae* comprise the majority of this group, but organisms such as *Aeromonas* spp. may also be included. Procedures to detect and confirm coliforms are used in testing water, foods, dairy products, and other materials.

Lauryl Sulfate Broth, also referred to as Lauryl Tryptose Broth, is prepared according to the formula of Mallmann and Darby. During their investigation, Sodium Lauryl Sulfate produced the best results for inhibition of organisms other than coliforms. Feng and Hartman developed a rapid assay for *E. coli* by incorporating 4-methylumbelliferyl-β-D-glucuronide (MUG) at a final concentration of 100 µg/mL into Lauryl Sulfate Broth. Incorporating MUG into Lauryl Sulfate Broth (LSB) permits the detection of *E. coli* among the coliform colonies.

LSB W/ MUG is recommended by the American Public Health Association (APHA) and the Association of Official Analytical Chemists (AOAC).

Typical Formulation

Enzymatic Digest of Casein	20.0 g/L
Lactose	5.0 g/L
Monopotassium Phosphate	2.75 g/L
Disodium Phosphate	2.75 g/L
Sodium Chloride	5.0 g/L
Sodium Lauryl Sulfate	0.1 g/L
4-Methylumbelliferyl-β-D-glucuronide	0.05 g/L

Final pH: 6.8 ± 0.2 at 25°C
Formula is adjusted and/or supplemented as required to meet performance specifications.

Precaution

Refer to SDS

Preparation

1. Dissolve 35.7 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Distribute into tubes containing inverted Durham tubes.
4. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and white to off-white.

Prepared Appearance: Prepared medium is yellow to gold and clear to trace hazy.

Expected Cultural Response: Cultural response in Lauryl Sulfate Broth W/ MUG incubated aerobically at 35 ± 2°C and examined for growth gas production and fluorescence after 24 ± 2 hours incubation.

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Microorganism	Approx. Inoculum (CFU)	Expected Results		
		Growth	Gas	Fluorescence
Enterobacter aerogenes ATCC® 13048	10 - 300	Growth	+ *	--
Escherichia coli ATCC® 25922	10 - 300	Growth	+	+
Salmonella typhimurium ATCC® 14028	10 - 300	Growth	--	--
Staphylococcus aureus ATCC® 25923	10 - 300	Inhibited	N/A	N/A

The organisms listed are the minimum that should be used for quality control testing.
* Gas production positive within 48 hours.

Test Procedure
Refer to appropriate references for specific procedures using Lauryl Sulfate Broth W/ MUG.

Results
After incubation of the tubes at 35°C for 24 hours, examine for turbidity, gas production, and fluorescence. Positive MUG reactions exhibit a bluish fluorescence under long-wave (approximately 366 nm) UV light. Typical strains of *E. coli* are positive for both gas production and fluorescence. Non-*E. coli* coliforms that grow may exhibit fluorescence but will not produce gas.

Expiration
Refer to expiration date stamped on container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Strains of *E. coli* that fail to grow in LSB W/ MUG, fail to produce gas, or fail to produce glucuronidase may infrequently be encountered. Strains of *Salmonella*, *Shigella,* and *Yersinia* that produce glucuronidase may be encountered. These strains must be distinguished from *E. coli* on the basis of other parameters; gas production, growth at 44°C.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

References

1. Marshall, R. T. (ed.). 2004. Standard methods for the examination of dairy products, 17th ed., American Public Health Association, Washington, D.C.
2. Eaton, A. D., L. S. Clesceri, and A. E. Greenberg (eds.). 2017. Standard methods for the examination of water and wastewater, 23rd ed. American Public Health Association, Washington, D.C.
3. Vanderzant, C., and D. F. Splittstoesser (eds.). 2015. Compendium of methods for the microbiological examination of foods, 4th ed. American Public Health Association, Washington, D.C.
4. www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalytical manualBAM/default.htm.
5. Mallmann, W. L., and C. W. Darby. 1941. Uses of a lauryl sulphate tryptose broth for the detection of coliform organisms. Am J. Public Health. 31:127.
6. Feng, P. C. S., and P. A. Hartman. 1982. Fluorogenic assays for immediate confirmation of *Escherichia coli*. Appl. Environ. Microbiol. 43:1320-1329.
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