NUTRIENT AGAR MUG

Medium for *Escherichia coli* presumptive identification.

TYPICAL FORMULA (g/l)

Peptone	5.0
Beef Extract	1.0
Sodium Chloride	5.0
Yeast Extract	2.0
4- Methylumbell. β- D Gluc. (MUG)	0.1
Agar	15.0
Final pH 6.8 ± 0.2	

DESCRIPTION

NUTRIENT AGAR MUG is a medium used for *Escherichia coli* presumptive identification.

PRINCIPLE

Peptone and beef extract are a source of proteins and free amino acids. Yeast extract is a source of vitamins of group B. Sodium chloride maintains the osmotic balance of the medium. *E. coli* produces the enzyme glucuronidase that hydrolyzes MUG to yield a fluorogenic product that is detectable under long-wave (366 nm) UV light. Agar is the solidifying agent.

PREPARATION

Suspend 28.0 g of powder in 1 L of distilled or deionized water. Heat until completely dissolved. Sterilize in autoclave at 121 °C for 15 minutes. Dispense in petri dishes.

TECHNIQUE

Inoculate 0.1 mL of appropriate dilutions in duplicate on the solidified agar. Incubate the first set at 35 ± 2°C for 24 ± 2 hours and the second set at 44.5 ± 0.2°C for 24 ± 2 hours. Read fluorescence under a long-wave UV light.

INTERPRETATION OF RESULTS

Positive MUG reactions exhibit a bluish fluorescence under long-wave (approximately 366 nm) UV light. Typical strains of *E. coli* are positive for fluorescence.

STORAGE

10-30°C away from light, until the expiry date on the label or until signs of deterioration or contamination are evident.

WARNING and PRECAUTIONS

The product is not classified as hazardous by current legislation and does not contain harmful substances in concentrations of ≥1%. The product must be used only by properly trained operators.

DISPOSAL of WASTE

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

REFERENCES

1. American Public Health Association. 1923. Standard methods of water analysis, 5th ed.
2. Association of Official Analytical Chemists. 1995. Official methods of analysis of AOAC International, 16th ed.
3. Marshall, R.T. (ed.). 1993. Standard methods for the microbiological examination of dairy products, 16th ed.

Liofilchem s.r.l.
Via Scozia-Zona industriale - 64026 Roseto degli Abruzzi Tel. +39.085.8930745 - Fax +39.085.8930330
Web site: http://www.liofilchem.net E-mail: liofilchem@liofilchem.net

PRODUCT SPECIFICATIONS

NAME
NUTRIENT AGAR MUG

PRESENTATION
Dehydrated medium

PACKAGING

Code	Content	Packaging
610332	500 g	500 g of powder in plastic bottle

pH OF THE MEDIUM
6.8 ± 0.2

USE
NUTRIENT AGAR MUG is a medium used for *Escherichia coli* presumptive identification.

TECHNIQUE
Refer to technical sheet of the product.

APPEARANCE OF THE MEDIUM
Dehydrated medium: free-flowing, homogeneous, beige in colour.
Prepared plates: light amber, slightly opalescent.

SHELFLIFE
4 years

QUALITY CONTROL
- Control of general characteristics, label and print
- Inoculum for productivity: 10-100 UFC/ml
  Inoculum for selectivity: 10^4-10^5 UFC/ml
  Inoculum for specificity: ≤ 10^4 UFC/ml

Microorganism		Growth	Fluorescence
Escherichia coli	ATCC 25922	good	+
Staphylococcus aureus	ATCC 25923	good	-
Enterococcus faecalis	ATCC 29212	good	-
Pseudomonas aeruginosa	ATCC 27853	good	-

TABLE OF SYMBOLS

LOT Batch code	Caution, consult accompanying documents	Manufacturer	Contains sufficient for <n> tests
REF Catalogue number	Temperature limitation	Use by	

Liofilchem s.r.l.
Via Scozia-Zona industriale - 64026 Roseto degli Abruzzi Tel. +39.085.8930745 - Fax +39.085.8930330
Web site: http://www.liofilchem.net E-mail: liofilchem@liofilchem.net