Nutrient Agar - MUG

Medium used for the presumptive identification of *Escherichia coli*.
*Equally use with NIER (MB-N1333N).

• CONTENTS (Liter)

Peptone	5.0 g
Beef Extract	3.0 g
MUG (4-methylumbelliferyl-β-D-glucuronide)	0.1 g
Agar	15.0 g

Final pH = 6.8 ± 0.2 at 25°C.

• PROCEDURE

Suspend 23.0 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45-50°C in water bath. Mix well. Dispense in petri dishes.

• INTERPRETATION

Nutrient Agar - MUG is a medium used for identification of *Escherichia coli.* Peptone and beef extract provide nitrogen, carbon, vitamins and minerals. MUG produces a blue fluorescence when hydrolyzed by the beta-glucuronidase. Typical strains of *E.coli* produce beta-glucuronidase and show a blue fluorescence under long-wave UV light. Agar is solidifying agent.

• TECHNIC

Inoculate the plates with spreading the specimen on surface of the medium using a sterile loop. Incubate at 35 ± 1°C for 18 - 24 hours. Read fluorescence under a long-wave UV light. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium
Appearance: free-flowing, homogeneous.
Color: beige.
Prepared medium
Appearance: clear with no precipitate.
Color: light amber.
Incubation conditions: 35 ± 1°C / 18 - 24 hours

Microorganism	ATCC	Inoculum CFU	Growth	Fluorescence
Escherichia coli	25922	30-300	good	+
Enterobacter aerogenes	13048	30-300	good	-
Salmonella typhimurium	14028	30-300	good	-

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2-8°C.

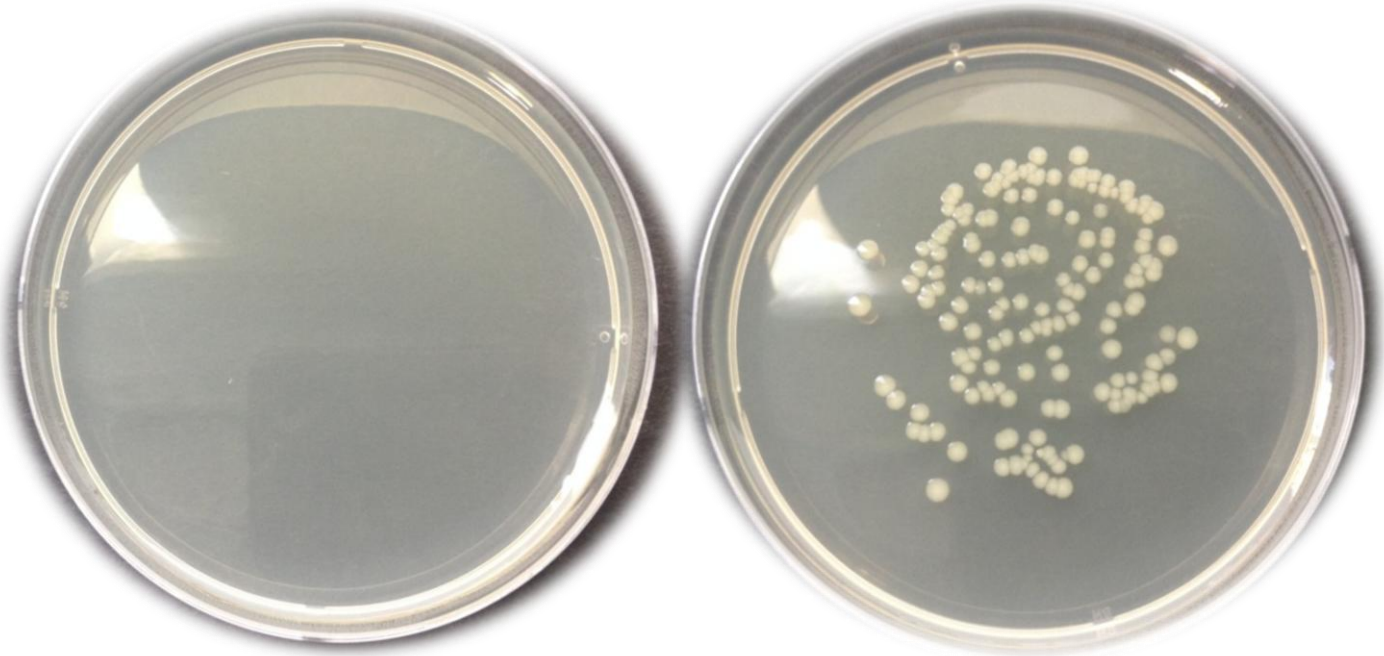
• REFERENCES

1. Kilian and Bulow. 1976. Acta Pathol. Microbiol. Scand. Sect. B 84:245.
2. Feng and Hartman. 1982. Appl. Environ. Microbiol. 43:1320.
3. Hansen and Yourassowsky. 1984. J. Clin. Microbiol. 20:1177.
4. Mates and Shaffer. 1989. J. Appl. Bacteriol. 67:343.
5. Chang, Brill and Lum. 1989. Appl. Environ. Microbiol. 55:335.
6. Federal Register. 1991. Fed. Regist. 56:636.
7. Eaton, Rice and Baird (ed.). 2005. Standard methods for the examination of water and wastewater, 21st ed., online. American Public Health Association, Washington, D.C.
8. Refer to the NIER.

• PACKAGE

Cat. No : MB-N1333 Nutrient Agar - MUG	500 G

• MICROBIAL CULTURE IMAGES



None

E.coli ATCC 25922 100CFU

Incubation conditions : 36±1℃ 18~24h

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