

# Buffered MUG Agar (BMA)



Medium used for the direct enumeration of glucuronidase-positive *Escherichia coli*.

## • CONTENTS (Liter)

Disodium Phosphate	8.23 g
Monosodium Phosphate	1.2 g
Sodium Chloride	5.0 g
MUG	0.1 g
Agar	15.0 g
Final pH = 7.4 ± 0.2 at 25°C.	

## • PROCEDURE

Suspend 29.5 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

Buffered MUG Agar (BMA) is a medium used for the direct enumeration of glucuronidase-positive *Escherichia coli*. Phosphate are buffering agents. Sodium chloride maintains the osmotic balance. MUG is cleaved by enzyme glucuronidase and the hydrolysis product 4-methylumbelliferone is detectable under long-wave ultra-violet light (366nm). Agar is the solidifying agent.

## • TECHNIC

Inoculate the plates with spreading the specimen on surface of the medium using a sterile loop. Incubate at 35 ± 2°C for 18 - 24 hours. Read fluorescence under a long-wave UV light(366nm). Refer appropriate references for recommended test procedure.

## • QUALITY CONTROL FOR USE

### Dehydrated medium

Appearance: free-flowing, homogeneous.

Color: beige.

### Prepared medium

Appearance: slightly opalescent.

Color: light amber.

Incubation conditions: 35 ± 2°C / 18 - 24 hours

Microorganism	ATCC	Inoculum CFU	Growth	Fluorescence
<i>Escherichia coli</i>	25922	50-100	good	+
<i>Citrobacter freundii</i>	8090	50-100	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. Hartman, P. 1988. MUG (glucuronidase) test for *Escherichia coli* in food and water. Proc. 5th International Symposium on Rapid Methods and Automation in Microbiology. Florence, Italy.
2. Hitchins, A., P. Hartman, and E. Todd. 1992. Coliforms-*Escherichia coli* and its toxins, p. 325-369. In C. Vanderzant and D. Splittstoesser (eds.), Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association.

## • PACKAGE

Cat. No : MB-B1513 Buffered MUG Agar (BMA)	500 G
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