

Violet Red Bile Agar with MUG (VRBA-MUG)

Product No. CM174

Intended Use

Used for enumerating *coliform* and *E. coli*. (GB, FDA BAM)

Specification 250 g

Ingredients	(g/L)
Peptone	7.0
Yeast Extract	3.0
Lactose	10.0
Sodium Chloride	5.0
Bile Salt	1.5
MUG	0.1
Neutral Red	0.03
Purple Crystal	0.002
Agar	15.0
(pH 7.4 ± 0.1)	

Additional Reagents

No

Principle and Interpretation

Peptone provides nitrogen source and trace elements, yeast extract provides vitamins and stimulates the growth of bacteria. Lactose is a fermentable sugar. Sodium chloride can maintain a balanced osmotic pressure. Bile salt and crystal violet inhibit gram-positive bacteria, especially gram-positive bacillus and streptococcus faecalis. Neutral red is a pH indicator. MUG (4-methylumbellione-β-D-galactoside 4-methylumbellione-β-D glucuronide) is the substrate of glucuronidase. Agar is a coagulant.

97% of *Escherichia coli* produce glucuronidase, which hydrolyzes the enzyme substrate MUG in the medium and releases free 4-methylumbelliferone, which fluoresces blue under UV light at a wavelength of 366nm.

Directions

Suspend 41.7 g of the powder in 1 L of distilled water. Mix thoroughly. Heat with frequent agitation and boil for 1-2 minute to completely dissolve the powder. DO NOT AUTOCLAVE. Cool to approximately 50°C and use immediately.

Precautions

No

Quality Control

Microorganisms	Inoculum (CFU)	Reference Medium	Method	Incubation	Growth (Productivity Ratio : PR)
<i>Escherichia coli</i> ATCC 25922	50-250	TSA	Quantitative	36°C±1°C 18h-24h	PR≥0.7. Purplish red or red colonies with precipitating rings and fluorescent
<i>Escherichia coli</i> CICC 25012 [CMCC(B) 43201]					
<i>Citrobacter freundii</i> ATCC 43864	—	—	Qualitative	36°C±1°C 18h-24h	Red colony with precipitation ring, no fluorescence
<i>Citrobacter freundii</i> CICC 25015 [CMCC(B) 48098]					
<i>Enterococcus faecalis</i> ATCC 29212	—	—	Semi-quantitative	36°C±1°C 18h-24h	G<5
<i>Enterococcus faecalis</i> CICC 25019 [CMCC(B) 32482]					

Storage Conditions

Keep container tightly closed and store in a cool dry place.

Shelf Life

3 years.

Related Products

Product No.	Product Name	Specification
GCM174-1H	Violet Red Bile Agar with MUG (VRBA-MUG) (Granule)	100 g
CM174-07	Violet Red Bile Agar with MUG (VRBA-MUG)	100 mLx10

For laboratory use in industry or R&D purpose. Not for drug, household or other uses.