**EC-MUG Medium**

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| **Product No.** | **Product Category** | **Specification** |
| HCM095 | Dehydrated Culture Medium | 500g/bottle |

**Intended Use**

For the determination of *Escherichia coli* in drinking water and its source water by multiple tube fermentation method.

**Principle and Interpretation**

MUG permits the rapid detection of *Escherichia coli* when the medium is observed for fluorescence using a UV light. MUG is hydrolyzed by the enzyme β-glucuronidase which is produced by *E. coli* to yield a fluorescent end product 4- methylumbelliferone. Trypticase provides the essential nutrients. Lactose is the fermentable carbohydrate. Sodium chloride maintains the osmotic equilibrium. The medium has a strong buffering system to control the pH in the presence of fermentative action. The bile salts inhibit gram-positive bacteria especially the Bacillus species and *faecal* *Streptococci*.

**Formulation**

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| **Ingredients** | **/liter** |
| Trypticase or tryptose | 20 g |
| Bile salts No. 3 | 1.5 g |
| Lactose | 5 g |
| K2HPO4 | 4 g |
| KH2PO4 | 1.5 g |
| NaCl | 5 g |
| 4-methylumbelliferyl-β-D-glucuronide (MUG) | 50mg |
| pH6.9±0.2 at 25°C | |

**Preparation**

Weigh 37g of dry powder of this product, add 1L of distilled water or deionized water, stir, heat and boil until

completely dissolved, sterilize at 115℃ for 20min, cool to room temperature and set aside.

**Quality Control**

The following quality control strains were inoculated and cultured at 44.5℃±0.5℃ for 24h. The results are as follows:

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| **Quality control strains** | **Growth** |
| Escherichia coli ATCC25922 | Blue-white fluorescence is produced under 366nm UV light |
| Salmonella typhimurium ATCC14028 | No fluorescence under 366nm UV light |
| Enterococcus faecalis ATCC29212 | Clear, no fluorescence |

**Storage and Shelf Life**

2-30℃，Keep container tightly closed, avoid direct sunlight.

Use before expiry date on the label.

**Precautions**

1. When weighing the dehydrated medium, please wear masks to avoid causing respiratory system discomfort

2. Keep container tightly closed after using to prevent clumping.

**Waste Disposal**

Microbiological contamination was disposed by autoclaving at 121°C for 30 minutes.

**Revision**

On June 14, 2024

**References**

BAM Media M50:EC-MUG Medium