TECHNICAL DATA SHEET

Article No. 8751

MUG Fluorescent Supplement (4-Methylumbelliferyl-β-D-Glucoronide)

SPECIFICATION

Sterile supplement used for *Escherichia coli* detection.

COMPOSITION (G/VIAL)

MUG (4-Methylumbelliferyl-β-D-Glucoronide)	0.050

Reconstitute the original freeze-dried vial by adding:

Sterile distilled water	6 ml

Each vial is sufficient to supplement 500 ml of medium base.
10 vials with freeze–dried supplement per box.

DESCRIPTION/TECHNIQUE

The incooperation of this supplement into culture media is reported to improve the sensitivity and specificity of *E. coli* detection. MUG reagent is cleaved by the enzyme glucuronidase to release 4-methylumbelliferone which produces a visible green/blue fluorescence at 366 nm. The addition of MUG reagent to culture media provides another criterion to determine the presence of *E. coli* in food and environmental samples.

Collect, dilute and prepare samples and volumes as required according to specifications, directives, official standard regulations and/or expected results.
Reconstitute the vial with a sterile distilled water in aseptic conditions and add it according to the directions of the culture medium base. Do not overheat once supplemented.
Pour the medium into suitable containers. Inoculate and incubate according to culture media base.

For VRBL/VRBG/MacConkey:
Once distributed into plates and solidified on a flat surface, spread the plates by streaking methodology or by spiral plate method. Incubate the plates according to specifications of the culture media base.

For Laurylsulphate Tryptose Broth/Brilliant Green Bile Broth/Lactose Broth:
Once distributed into tubes, inoculate with samples and incubate according to the culture media base.
Incubation at 44 ±1 °C increases the selectivity of the medium and the specificity for *E. coli* isolation.
After incubation, observe green/blue fluorescence development under UV light at 365 nm for glucuronisade activity, which constitutes a presumptive test for the presence of *E. coli* in the analyzed sample.
Each laboratory must evaluate the results according to their specifications.Presumptive isolation of the required microorganism must be confirmed by further biochemical test.

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Amtsgericht Stuttgart / HRA-Nr. 254140
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Amtsgericht Stuttgart / HRB-Nr. 252035
Geschäftsführer: Lutz-Alexander Geyer / Thomas Roth

QUALITY CONTROL

- Physical/chemical control: Colour off-white
  pH at 25 °C
- Microbiological control: Reconstitute 1 vial as indicated, shake and dissolve completely.
  Add 1 vial to 500 ml of medium base. Do not overheat once supplemented.
  Aerobiosis. Incubation at 36 ±2 °C, reading at 18-24 h.

Microorganism	Growth	Remarks
Escherichia coli ATCC® 25922	Good – High fluorescence	None
Salmonella typhimurium ATCC® 14028	Good – No fluorescence	None

- Sterility control: Incubation 48 h at 30-35 °C and 48 h at 20-25 °C: No growth.
  Check at 7 d after incubation at the same conditions.

REFERENCES

- KILIAN, M a BÜLOW, P.: Rapid diagnosis of Enterobacteriaceae. I. Detection of bacterial glycosidases. -Acta Pathol. Microbiol. Scand. Sect. B 84; 245-251 (1976)
- MANAFI, M a. KNEIFEL, W.: A combined chromogenic-fluorogenic medium for the simultaneous detection of total coliforms and E. coli in water. -Zentralabl. Hyg. 189; 225-234 (1989)
- ISO 11866-2: 1997. Milk and milk products. Enumeration of presumptive Escherichia coli. Part 2: Most probable number technique using MUG.
- TREPETA, R. W. and EDBERG, S. C.: MUG based medium for rapid isolation and identification of E. coli. Journal of Clinical Microbiology, 19(2): 172-174 (1984)

STORAGE

2-25 °C

SHELF LIFE

49 months from date of production.

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