Reference: 06-102LYO1 **Scharlau Microbiology - Technical Data**

Product: # MUG Fluorescent Supplement

Specification

Sterile supplement used for *Escherichia coli* detection.

Presentation

	Packaging Details	Shelf Life	Storage
10 Freeze dried vials Vial with: 3 ± 0.1 g	23x60 mm glass vials, tag labelled, White plastic cap - 10 vials per box.	49 months	2-25 ºC

Composition

Compositon (g/vial)

MUG..... 0.050
(4-Methyl-Umbelliferyl-ß-D-Glucuronide)

Reconstitute the original freeze-dried vial by adding
Sterile Distilled Water.....6 ml

NOTE : Each vial is sufficient to supplement 500 ml of medium Base.

Description /Technique

Description

The incorporation 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 an end product 4-methylumbelliferone which produces a visible green/blue fluorescence under long wave ultra-violet light (366 nm). The addition of MUG reagent to culture media provides another criterion by which to determine the presence of Esch. coli in food and environmental samples.

Technique

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 diluent (distilled water) in aseptic conditions and add according to direction of culture media Base.
Do not overheat once supplemented.
Pour the medium into suitable containers.
Inoculate and incubate according to culture media Base.

For VRBL/VRBG/McConkey:

Once distributed into plates and solidified on a flat surface, spread the plates by streaking methodology or by spiral method.
Incubate the plates according to specification of culture media Base.

For Laurylsulfate-tryptose broth / Brilliant Green 2% Bile broth/ Lactose Broth:

Once distributed into tubes, inoculate with samples and incubate according to culture media Base.
Incubation at 44ºC±1 ºC increases the selectivity of the medium and the specificity for *E.coli* isolation.
After incubation, observe blue-green fluorescence development under UV light at 365 nm for glucuronisade activity, that constitutes a presumptive test for the presence of *E.coli* presence in the analized sample.
Each laboratory must evaluate the results according to their specifications.
Presuntive isolation of the required microorganism must be confirmed by further biochemical tests.

Quality control

Physical/Chemical control

Color : Off-white

Microbiological control

Reconstitute 1 vial as indicated in COMPOSITION; shake and dissolve completely

Add 1 vial to 500 ml of medium base. DO NOT HEAT once supplemented.

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Distribute the complete medium, cooled to 50 ºC, into 90 mm plates

Incubate according instructions for complete medium indicated in COMPOSITION.

Aerobiosis. Incubation at 36 ± 2 ºC, reading at 18-24 h

Microorganism	Growth
Escherichia coli ATCC® 25922, WDCM 00013	Good - High Fluorescent
Salmonella typhimurium ATCC® 14028, WDCM 00031	Good - NO Fluorescence

Sterility control

Add 5mL of the sample to 100 mL of TSB and to 100 mL Thioglycollate.
Incubation 48 h at 30-35 ºC and 48 h at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

Bibliography

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