

PRODUCT INFORMATION

Product Type: Little Dishes 50mm

Cat No. LD534 - NUTRIENT AGAR + MUG

Intended Use:

Non-selective nutrient agar medium supplemented with MUG (4-Methylumbelliferyl- β -D-glucuronide) for the cultivation of non-fastidious microorganisms and detection of β -glucuronidase activity (fluorogenic reaction under UV light). Primarily used for detection and differentiation of β -glucuronidase-positive organisms, including *Escherichia coli*, in water, food, and environmental samples and laboratory and research applications.

For laboratory use only.

Principle and Uses:

Nutrient Broth provides peptones and beef extract to support growth of non-fastidious bacteria. Agar solidifies the medium and is not utilized by most bacteria, yielding a firm surface for colony development. MUG (4-methylumbelliferyl- β -D-glucuronide) is cleaved by β -D-glucuronidase (GUD) produced by most *E. coli* strains, releasing 4-methylumbelliferone, which fluoresces under long-wave UV light. The medium is therefore differential for *E. coli*, which typically show fluorescent colonies or halos after incubation.

Limitations

Not selective; competing flora may overgrow target organisms.
Some *E. coli* strains (e.g., O157:H7) may be β -glucuronidase negative.
Fluorescence intensity may vary with incubation time and medium conditions.

Composition

Beef Extract - 3.0 g/L
Peptone - 5.0 g/L
Agar – 12g/L
4-methylumbelliferyl- β -D-glucuronide (MUG) – 100mg/L

Storage: 2–8°C, protect from light (MUG is light sensitive), Avoid freezing.

Appearance: light amber, Clear to slightly opalescent.

pH Range: 6.6 - 7.0

Package contents: 5 plates in a package

Exp. Date: Printed on label and on the item.

Required materials not supplied: Laboratory equipment as required.

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Petri dishes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Petri Dishes may be used / inoculated up to the expiration date and incubated for the recommended incubation times. After use and prior to discarding, specimen containers and all contaminated material, including the used culture media and contaminated culture containers, must be sterilized or incinerated by validated procedures. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.

If excessive moisture is observed, invert the bottom over an off-set lid and allow to air dry in order to prevent formation of a seal between the top and bottom of the plate during incubation. Storage Instructions: On receipt, store plates in the dark at 2–8 °C. Avoid freezing and overheating. Do not open until ready to use.

Waste Disposal

After interpretation all plates should be destroyed by standard incineration methods.

Performance Testing Results:

A membrane with inoculated test organisms is transferred from m-endo agar onto nutrient agar + MUG.
Observe fluorescence under UV.

TEST	ATCC	Incubation Temp. (°C)	Incubation Cond.	Reaction 1	
<i>Escherichia coli</i>	25922	33-37 °C	Aerobic, 4 hours	Growth	Positive fluorescence under UV (MUG+)
<i>Enterobacter aerogenes</i>	13048	33-37 °C	Aerobic, 4 hours	Growth	Negative fluorescence under UV (MUG-)