

PRODUCT INFORMATION

Product Type: Tubes

Cat No. TT147 - UMI MEDIUM

Intended Use:

UMI Medium (Urea, Motility, Indole Medium) is a specialized culture medium used for the differentiation of *Enterobacteriaceae* based on three biochemical properties: motility, urease production, and indole production

Applications:

Differentiation of Enterobacteriaceae and other Gram-negative bacteria.

Simultaneous testing of motility, urease, and indole in a single tube, saving time and resources.

Principles and uses:

Peptones: Provide carbon and nitrogen sources necessary for bacterial growth.

Urea: Serves as a substrate for urease-positive bacteria. Urease hydrolyzes urea to ammonia, increasing pH.

Phenol Red: Acts as a pH indicator. It changes color from yellow-orange (pH ~7.0) to red-pink (pH ~8.1) when urease activity raises the pH.

Low Agar Concentration: Allows detection of bacterial motility by enabling diffusion of motile bacteria away from the stab line.

Indole Cap: Contains indole reagent impregnated in the cap for detecting indole production. A pink to mauve color in the cap indicates a positive indole reaction.

Test Procedure:

1. Stab inoculate isolated colonies into the medium.
 2. Replace the plastic cap with the Indole Cap.
 3. Incubate at 35±2°C for 18–24 hours.
 4. Observe:
 - Urease activity: Pink-red color in the medium indicates positive urease.
 - Motility: Cloudiness extending from stab line indicates motility.
 - Indole production: Pink-mauve color in the cap indicates positive indole.
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Composition:

Tryptone 20 g/L

Agar 2.17 g/L

Urea Solution 50% - 12 ml/L

Phenol Red Solution 0.2% 10 ml/L

Indole Cap

This product should be used with IS004 Indole Caps

Storage: 15°-25°C

Package contents: 20 tubes

Appearance: light amber, clear, semisolid gel

pH Range: 6.7 - 7.1

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

Required materials not supplied: Laboratory equipment as required.

Warning and Precautions:

Warning and Precautions - For professional use only. Follow good microbiological lab practices while handling specimens and culture. Do not use Tubes if they show evidence of microbial contamination, discoloration, drying, cracking, or other signs of deterioration. Avoid freezing and overheating. The Tubes 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.

Waste Disposal

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

Performance Testing Results:

Test	ATCC NO	Incubation Temp. (°C)	Incubation Cond.	Reaction 1	INDOLE	MOTILITY	UREA
<i>Escherichia coli</i>	25922	33-37 °C	Aerobic, 24 hours	Growth	+	+	-
<i>Salmonella typhimurium</i>	14028	33-37 °C	Aerobic, 24 hours	Growth	-	+	-
<i>Shigella flexneri</i> type 29	29903	33-37 °C	Aerobic, 24 hours	Growth	+	-	-
<i>Shigella sonnei</i>	29930	33-37 °C	Aerobic, 24 hours	Growth	-	-	-
<i>Proteus mirabilis</i>	4630	33-37 °C	Aerobic, 24 hours	Growth	-	+	+
<i>Proteus vulgaris</i>	33420	33-37 °C	Aerobic, 24 hours	Growth	+	+	+