

## MIU Medium

LQ092

For detection of motility, urease and indole production.

### Composition\*\*

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Dextrose	1.000
Sodium chloride	5.000
Phenol red	0.010
Agar	2.000
FD048	1.000
Final pH ( at 25°C)	6.8±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Label the ready to use LQ092 bottle. Stab the sample and Incubate at specified temperature and time.

### Principle And Interpretation

MIU Medium Base is formulated to detect motility, urease and indole production in single tube. Casein enzymic hydrolysate provide amino acids and other nitrogenous substances. Sodium chloride maintains osmotic equilibrium. Dextrose is fermentable carbohydrate. Phenol red is the pH indicator which turns pink- red in alkaline conditions. The test cultures are stab-inoculated. Motility and urease reactions are read before testing Indole production. Motile organisms show either diffused growth or turbidity extending away from stab inoculation line while nonmotile organisms grow along the stabline. Organisms that utilize urea, produce ammonia which makes the medium alkaline, showing pink-red colour by change in the phenol red indicator (1). Indole is produced from tryptophan present in casein enzymic hydrolysate (2,3). The indole produced combines with the aldehyde present in the Kovac's reagent to form a red complex.

### Quality Control

#### Appearance

Sterile MIU Medium in bottles.

#### Colour

Orange coloured opalescent butts.

#### Quantity of Medium

10ml of medium in bottles.

#### Reaction

6.60- 7.00

#### Sterility test

Passes release criteria

#### Cultural response

Cultural characteristics observed after incubation at 35-37°C for 18-24 hours.

Organism	Growth	Motility	Indole	Urease
<i>Escherichia coli</i> ATCC 25922	Luxuriant	Positive	Positive	Negative
<i>Klebsiella pneumoniae</i> ATCC 13883	Luxuriant	Negative	Negative	Weakly positive

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<i>Proteus vulgaris</i> ATCC 13315	Luxuriant	Positive	Positive	Positive
<i>S. serotype typhimurium</i> ATCC 14028	Luxuriant	Positive	Negative	Negative
<i>Proteus mirabilis</i> ATCC 25933	Luxuriant	Positive	Negative	Positive

### Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label.

### Reference

1. Rustigian and Stuart (1941) Proc. Soc. Exp. Biol. Med., 47:108. 2. McFaddin J.F. (1985) Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore 3. Ewing (1986) Edwards and Ewings 'Identification of Enterobacteriaceae', 4th ed. Elsevier Science Publishing Co., Inc., New York.

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