TM 781 - MIU MEDIUM BASE

INTENDED USE
For detection of motility, urease and indole production.

PRODUCT SUMMARY AND EXPLANATION
MIU Medium Base is formulated to detect motility, urease and indole production in single tube. 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. Indole is produced from tryptophan present in tryptone. The indole produced combines with the aldehyde present in the Kovac's reagent to form a red complex.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	10.000
Dextrose (Glucose)	1.000
Sodium chloride	5.000
Phenol red	0.010
Agar	2.000

PRINCIPLE
Tryptone 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.

INSTRUCTION FOR USE
- Dissolve 18 grams in 950 ml purified / distilled water. Heat to boiling to dissolve the medium completely.
- Dispense in 95 ml amounts into flasks and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to about 50-55°C and add aseptically 5 ml sterile 40% Urea solution per 95 ml basal medium.
- Mix well and dispense into sterile test tubes.
- Allow to cool in an upright position.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Light orange to light pink coloured homogeneous free flowing powder

Appearance of prepared medium : Yellowish orange coloured clear to slightly opalescent gel is obtained in tubes as butts afteraddition of urea solution

pH (at 25°C) : 6.8±0.2

INTERPRETATION
Cultural characteristics observed with added 40% Urea solution after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Indole	Motility	Urease activity	Incubation Temperature	Incubation Period

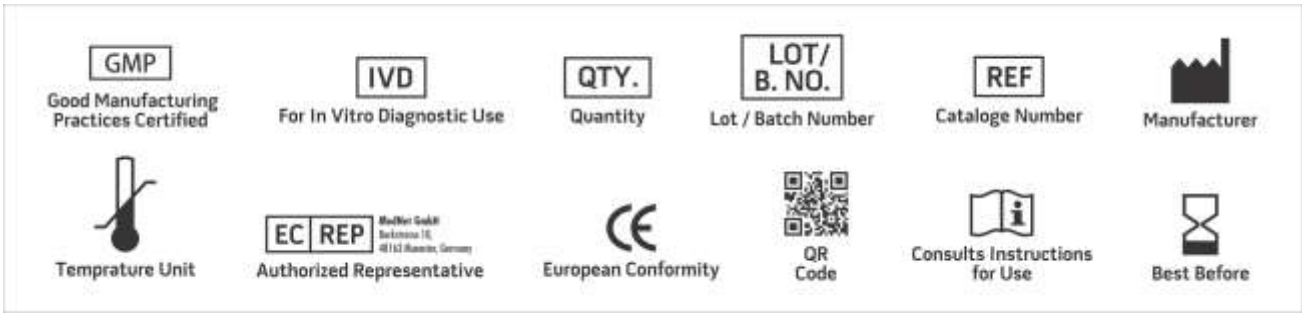
Escherichia coli	*25922*	50-100	luxuriant	>=70 %	Positive reaction, red ring at the interface of the medium	Positive, growth away from stabline causing turbidity	Negative reaction,no change	35-37°C	18-24 Hours
Klebsiella pneumoniae	*13883*	50-100	luxuriant	>=70 %	Negative reaction no colour development / cloudy ring	Negative growth along the stabline,surrounding medium remains clear	Weakly positive	35-37°C	18-24 Hours
Proteus mirabilis	*25933*	50-100	luxuriant	>=70 %	Negative reaction no colour development / cloudy ring	Positive, growth away from stabline causing turbidity	Positive reaction, cerise colour	35-37°C	18-24 Hours
Proteus vulgaris	*13315*	50-100	luxuriant	>=70 %	Positive reaction, red ring at the interface of the medium	Positive, growth away from stabline causing turbidity	Positive reaction, cerise colour	35-37°C	18-24 Hours
Salmonella Typhimurium	*14028*	50-100	luxuriant	>=70 %	Negative reaction no colour development / cloudy ring	Positive, growth away from stabline causing turbidity	Negative reaction,no change	35-37°C	18-24 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Ewing (1986) Edwards and Ewings 'Identification of *Enterobacteriaceae*', 4th ed. Elsevier Science Publishing Co., Inc., New York.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. McFaddin J.F. (1985) Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore
5. Rustigian and Stuart (1941) Proc. Soc. Exp. Biol. Med., 47:108.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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