

## TMT 018- UREA INDOLE MEDIUM

### INTENDED USE

For differentiation of microorganism especially Enterobacteriaceae on the basis of their ability to hydrolyze urea and indole production.

### PRODUCT SUMMARY AND EXPLANATION

Strains of *Enterobacteria* are associated with abscesses, pneumonia, meningitis, septicemia and infections of wounds, the urinary tract and the intestine. They are a major component of the normal intestinal flora of humans but are relatively uncommon at other body sites. Of clinically significant isolates, *Enterobacteriaceae* may account for 80% of gram-negative bacilli and 50% of all clinically significant isolates in clinical microbiology laboratories.

Urea Indole Medium is used for the identification of *Enterobacteria* on the basis of Urease and indole production and the transdeamination of tryptophan. This medium is very useful in the identification of *Proteus* species from *Salmonella* and *Shigella* species. The results for urease production should be noted prior to indole reaction, as addition of Kovacs reagent, decolourizes the medium, due to drop in pH.

### COMPOSITION

Ingredients	Gms / Ltr
L- Tryptophan	3.000
Sodium chloride	5.000
Potassium phosphate, monobasic	1.000
Potassium phosphate, dibasic	1.000
Urea	20.000
Phenol red	0.012

### PRINCIPLE

L- Tryptophan is an essential amino acid and is converted to skatole and indole, which is detected by the addition of Kovacs Reagent. Sodium chloride maintains the osmotic balance. The phosphates help in the buffering of the medium. Microorganisms that possess the enzyme urease hydrolyse urea, releasing ammonia, which is detected by the pH indicator phenol red. The alkalinity so developed imparts pink colour to the medium.

### INSTRUCTION FOR USE

Inoculate the sample and incubate at specified temperature and time.

### QUALITY CONTROL SPECIFICATION

Appearance of prepared medium	:	Yellow to light orange coloured clear solution
Quantity of Medium	:	10 ml of medium in tubes.
pH (at 25°C)	:	6.8 ± 0.2
Sterility Check	:	Passes release criteria

### INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Urease	Incubation Temperature	Incubation Period



<i>Escherichia coli</i>	25922	50-100	luxuriant	Negative reaction, no change	35-37°C	18-24 Hours
<i>Proteus mirabilis</i>	12453	50-100	luxuriant	Positive reaction, Pink colour	35-37°C	18-24 Hours
<i>Proteus vulgaris</i>	13315	50-100	luxuriant	Positive reaction, Pink colour	35-37°C	18-24 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	luxuriant	Negative reaction, no change	35-37°C	18-24 Hours

**PACKAGING:**

Pack of 25 Ready-To-Use Liquid Medium tubes containing 10 ml in each tube.

Pack of 50 Ready-To-Use Liquid Medium tubes containing 10 ml in each tube.

**STORAGE**

On receipt, store tubes in the dark at 10-25°C. Avoid freezing and overheating. Do not open until ready to use. Minimize exposure to light. Tubed media stored as labeled until just prior to use may be inoculated up to the expiration date and incubated for the recommended incubation times. Allow the medium to warm to room temperature before inoculation.

**DISPOSAL**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

**REFERENCES**

1. Patrick R. Murray et al, Manual of Clinical Microbiology, Sixth Edition, 444 - 445.
2. Roland F. Bourbon D, Sztrum S. Ann. Inst. Pasteur, 73. 914-916.



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

**\*For Lab Use Only**  
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