

TM 2411 – UREA INDOLE BROTH, MODIFIED (ISO 10273:2003)

INTENDED USE

For the detection of urease production, particularly by members of the genus Proteus.

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 gramnegative bacilli and 50% of all clinically significant isolates in clinical microbiology laboratories. This medium formulation is as per ISO and is recommended for the confirmation of *Yersinia* on the basis on urease reaction and indole reaction. *Yersinia* gives a positive urease reaction. Some biovars of *Yersinia* are indole positive while some give negative reaction. Urea Indole Medium is also used for the identification of *Enterobacteria* on the basis of urease and indole production and the trans-deamination of tryptophan. 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		
Potassium dihydrogen phosphate	1.000		
Dipotassium hydrogen phosphate	1.000		
Sodium chloride	5.000		
Urea	20.000		
Phenol red	0.025		

PRINCIPLE

The medium consists of L- Trypytophan which 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 alkalinility so developed imparts pink colour to the medium.

INSTRUCTION FOR USE

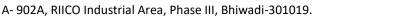
- Dissolve 30.03 grams in 1000 ml distilled water.
- Dissolve the medium completely and sterilize by filtration. DO NOT AUTOCLAVE.
- Aseptically, dispense into sterile tubes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Light yellow to light pink homogeneous free flowing powder.
Appearance of prepared medium	: Yellow to light orange coloured clear solution.
pH (at 25°C)	: 6.9±0.2

INTERPRETATION

Cultural characteristics observed after incubation.



PRODUCT DATA SHEET



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Indole	Urease	Incubation temperature	Incubatio n Period
Escherichia coli	25922	50-100	Luxuriant	Positive reaction, red colour at the interface of the medium after addition of Kovacs reagent	Negative reaction, no change	35-37°C	18-24 Hours
Proteus mirabilis	12453	50-100	Luxuriant	Negative reaction, no change	Positive reaction, pink colour	35-37°C	18-24 Hours
<i>Salmonella</i> Typhimurium	14028	50-100	Luxuriant	Negative reaction, no change	Negative reaction, no change	35-37°C	18-24 Hours
Yersinia enerocolitica	27729	50-100	Luxuriant	Negative reaction, no change	Positive reaction, pink colour	35-37°C	18-24 Hours

PACKAGING:

In pack size of 100 gm and 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.

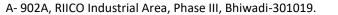
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

- 1. 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.
- 3. Microbiology of food and animal feeding stuffs -- Horizontal method for the detection of presumptive pathogenic Yersinia enterocolitica.







NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices. *For Lab Use Only Revision: 08 Nov., 2019

