

Urea / Indole Test



Kit used for the identification and determination of microorganisms on the basis of urease and indole production.

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Urea / Indole Test Mixture	30 tubes
Kovac's Reagent	3 mL
Vaseline Oil	3 mL
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Storage condition : Store at 2 - 6°C

• PROCEDURE

1. Take the tubes from the refrigerator and leave it for a few minutes on the bench until it has reached room temperature.
2. Inoculate well isolated colonies from fresh culture medium using a sterile loop to the tubes.
3. Overlay with 2 - 3 drops Vaseline Oil (MB-80278).
4. Incubate at $36 \pm 1^\circ\text{C}$ for 1 - 4 hours up to 24 hours.
5. Observe the development of pink color. (Urease Test)
6. Add 2 - 3 drops of Kovac's Reagent (MB-9410) and observe the color change. (Indole Test)

• INTERPRETATION

Urea / Indole Test is a kit used for the identification and determination of microorganisms on the basis of urease and indole production. Microorganisms that produce urease hydrolyze urea into ammonia, water and carbon dioxide. The presence of alkaline products determines color change of phenol red indicator from yellow to pink. Microorganisms that produce tryptophanase hydrolyze tryptophan into indole, pyruvic acid and ammonia. The presence of indole can be detected through the use of Kovac's reagent. Kovac's reagent, which is yellow, reacts with indole and produces a red ring on the surface of the test tube.

• INTERPRETATION OF THE RESULTS

	Urea Test	Indole Test
Positive	pink	presence of red ring
Negative	yellow or no color change	yellow or no color change

• QUALITY CONTROL FOR USE

Appearance : Urea / Indole Test - clear

Kovac's Reagent - clear

Vaseline Oil - clear

Color : Urea / Indole Test - light orange

Kovac's Reagent - yellow

Vaseline Oil - colorless

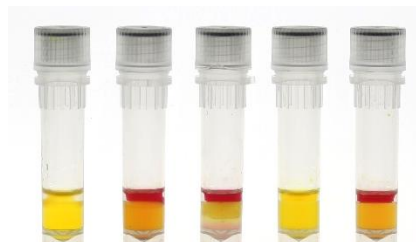
Incubation conditions : $36 \pm 1^\circ\text{C}$ / 1 - 4 hours up to 24 hours

Urease



None E.col P.vul S.typ Y.ent

Indole



None E.col P.vul S.typ Y.ent

Microorganism	ATCC	Growth	Urease	Indole
<i>Escherichia coli</i>	25922	good	-	+ (red ring)
<i>Proteus vulgaris</i>	13315	good	+ (pink)	+ (red ring)
<i>Salmonella typhimurium</i>	14028	good	-	-
<i>Yersinia enterocolitica</i>	23715	good	+ (pink)	+ (red ring)

• STORE

Store the kit at 2 - 6°C in its original package tightly closed and use it before the expiry date on the label. Keep away from sources of heat and avoid excessive changes of temperature.

• REFERENCES

1. Blazevic, D.J. and Ederer, G.M.: Principles of biochemical tests in diagnostic microbiology. p.p. 63-67. New York, John Wiley & Sons, 1975.
2. Isemberg, H.D. and Sundheim, L.H.: Indole reactions in bacteria. J. Bacteriol., 75:682-690. Baltimore, Williams & Wilkins, 1980.
3. MacFaddin, J.F.: Biochemical tests for identification for medical bacteria. 2th ed., p.p., 173-183 Baltimore, Williams & Wilkins, 1980.

• PACKAGE

Cat. No : MB-88024
Urea / Indole Test

30 tubes
Reagent 3 mL × 2ea