



## Iodine Solution

R044

It is an analytical reagent used for detecting starch hydrolysis.

### Composition\*\*

#### Ingredients

Iodine	0.340 gm
Potassium iodide	0.660 gm
Distilled water	100.00 ml

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

### Directions

Add 1-2 drops of Iodine Solution (R044) to the colony (24-48 hours old) grown on Starch agar (M107) or in a – amylase well of KB006. Observe for colourless zone against blue background.

### Principle And Interpretation

Lugol's iodine is named after the French physician J.G.A. Lugol. It is used as a reagent for starch detection in routine laboratory and medical tests. These uses are possible since the solution is a source of effectively free elemental iodine, which is readily generated from the equilibration between elemental iodine molecules and triiodide ion in the solution(1). The presence of starches in organic compounds with which it reacts is indicated by turning a dark-blue/black.

### Quality Control

#### Appearance

Brown coloured liquid.

#### Clarity

Clear without any precipitate.

#### Cultural Response

Biochemical identification was carried out by adding Iodine Solution (R044) in 24-48 hours old culture grown on starch agar (M107)

Organism	Starch hydrolysis
<i>Escherichia coli</i> ATCC 25922	Negative (Blue colour formation)

*Bacillus subtilis* ATCC 6633 Positive (Colourless zone around growth)

### Storage and Shelf Life

Store below 30°C in tightly closed container and away from bright light. Use before expiry date on label.

### Reference

1) Küpper F. C., Feiters M. C., Olofsson B., Kaiho T., Yanagida S., Zimmermann M. B., Carpenter L. J., Luther G. W., Lu Z. et al. (2011). "Commemorating Two Centuries of Iodine Research: An Interdisciplinary Overview of Current Research". *Angewandte Chemie International Edition* 50 (49): 11598–11620.

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