

Qualitative Detection of Urinary Ketones

Experiment 13 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To perform or observe the assigned qualitative test and interpret its controls.

Principle

Common nitroprusside urine tests detect mainly acetoacetate; they do not directly quantify beta-hydroxybutyrate.

Expected Teaching Response

A purple-type positive response supports the measured ketone component.

Requirements

- Simulated urine, ketone controls and approved testing product
- Clean labelled tubes or product-specific test equipment; PPE

Procedure

1. Label

Prepare separate test, positive control and reagent blank/negative control entries.

2. Perform

Follow the product contact and timed-reading instructions and record the category.

3. Read

Observe at the method-defined time and compare with controls.

4. Record

Write the actual colour, precipitate or category, then the supported inference.

5. Interpret

Do not use a negative urine result to exclude an acutely unwell person's ketoacidosis.

Biochemistry and Clinical Pathology

Observations and Record

Material	Observed response	Inference
Test material	_____	_____
Positive control	_____	_____
Blank / negative control	_____	_____

Result

The observed response was _____. Controls were _____. The result _____ supports _____ under the stated method.

Precautions

- Use simulated biological material or authorised supervised demonstrations.
- Follow reagent, solvent, heating and waste controls; corrosive or metal reagents are instructor-managed.
- Do not copy an expected response into the actual observation field.

Viva Questions and Answers**1. What response is expected in the teaching positive?**

A purple-type positive response supports the measured ketone component.

2. Why use controls?

They show whether the reagents and conditions produced a valid comparison.

3. What limits the conclusion?

Do not use a negative urine result to exclude an acutely unwell person's ketoacidosis.

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