

SER: Blood (Confirmatory) - Takayama

Principle

The Takayama (Hemochromogen) test is a confirmatory test for blood which is specific for hemoglobin. Insoluble, pink, needle-shaped crystals of hemochromogen form when hemoglobin is in the presence of pyridine.

Note: prior to this confirmatory test, a presumptive test for blood must be performed.

Equipment and supplies

This procedure uses the following laboratory equipment and supplies:

- hot plate
 - compound microscope
 - microscope slides
 - cover slips
 - disposable pipettes
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Reagents

This procedure uses the following reagents:

- saturated aqueous glucose solution
 - Using heat, dissolve 100 grams of glucose in enough water to make 100 mL.
 - 10% aqueous sodium hydroxide
 - Dissolve 10 grams of sodium hydroxide in enough water to make 100 mL.
 - Takayama Reagent
 - 10 mL Saturated Aqueous Glucose Solution
 - 10 mL 10% Aqueous Sodium Hydroxide
 - 10 mL pyridine
 - 20 mL deionized water
 - Combine and store refrigerated in a dark bottle.
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Quality control

The Takayama reagent must be quality control tested against a positive control (bloodstain) each day before use in casework. The results are recorded in the examination documentation.

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Records Records documenting the preparation and initial quality control testing of each new lot will be kept in the *Biology Quality Control Log Book*.

Procedure The following procedure is used to perform the Takayama test.

| Step | Action |
|------|--|
| 1 | Place a small portion of suspected blood on a microscope slide. |
| 2 | Add a drop of <i>Takayama Reagent</i> and cover with a cover slip. |
| 3 | OPTIONAL: warm the slide on a hotplate. |
| 4 | Examine the slide using a microscope. |

Interpretation The formation of pink needle or rhomboid-shaped crystals is a positive (+) result and confirms the presence of blood.

The failure to obtain crystals is a negative (-) result. However, a negative result does not necessarily indicate the absence of blood.
