

Document Title: Test for Amylase (Phadebas)

Controlled By: Quality Manager

Prepared By: _____ Date: _____

Approved By: _____ Date: _____

A. PURPOSE:

To determine the presence of amylase in a Forensic sample, which indicates the presence of saliva.

B. RESPONSIBILITY:

Forensic Science Examiners from the Connecticut State Forensic Science Laboratory who have been trained in the discipline of testing for amylase according to SOP-FB-31 (Training Manual).

C. DEFINITION:

RSID: Rapid Stain Identification

D. PROCEDURE:

This test will be performed at the discretion of the examiner based on the submitting agency requests, case information and the condition of the evidence.

1. Materials:

- a. Phadebas[®] powder
- b. Distilled water (dH₂O)
- c. RSID[™]-Universal Buffer
- d. Controls: positive (known saliva stain) and negative (blank filter paper), include substrate control as needed
- e. Previously extracted samples
- f. Disposable pipets
- g. Test tubes
- h. Filter paper

2. Procedure:

- a. Test a positive and negative control with the following procedure (steps 2.b. – 2.i.).
 - aa. The controls may be run concurrently with the questioned samples and are made with the same extraction solution used for the questioned samples.
 - bb. If limited questioned sample is available, run the controls prior to testing the questioned sample. If controls yield the appropriate results then test the questioned sample.
 - cc. If controls do not yield the appropriate results, review the procedure and retest the controls prior to the questioned samples.

- D. 2. b. For a liquid sample, prepare a stain on filter paper and air dry.
 - c. Place a portion of the questioned sample or stain in a labeled test tube.
 - d. To each tube add approximately 0.025g of Phadebas[®] powder.
 - e. Add approximately 4 drops (250µl) of dH₂O to each tube.
 - f. For samples previously extracted in RSID[™]-Universal Buffer (as needed):
 - aa. To each tube add approximately 0.025g of Phadebas[®] powder.
 - bb. Add approximately 4 drops (250µl) of extract to each tube.
 - g. Gently shake each test tube to mix contents.
 - h. Incubate at 37°C for 15-20 minutes.
 - i. Shake each tube again and centrifuge for one (1) minute.
 - j. Observe the color of the supernatant of the samples.
3. Results
 - a. *Positive*. In positive samples the supernatant will be blue, indicating the presence of amylase activity.
 - b. *Negative*. In negative samples the supernatant will be clear, indicating the no amylase activity.
 - c. *Inconclusive*. No discernible color of supernatant.
 - d. It is important to compare results against the positive and negative controls.
 - e. Record the results of the controls and samples on the appropriate Quality Record Worksheet.
 - f. A 2nd examiner will observe and confirm results and initial the appropriate Quality Record Worksheet.
 4. Record extraction solutions on the appropriate Quality Record Worksheet location and General Reagent Sheet (FBQR-09).

E. **REFERENCES:**

1. Willott, G.M. 1974. "An improved test for the detection of salivary amylase in stains". J. Forensic Sci. Soc., 14: 341-344.
2. Metropolitan Police Forensic Science Laboratory. Biology Methods Manual. 1978, pp. 3-10 to 3-11.