

**Connecticut Department of Public Safety**  
**Division of Scientific Services**  
**Forensic Laboratory**

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Document Title: Screening Test for Semen  
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Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

**A. PURPOSE:**

To perform a screening test for the presence of semen in Forensic samples.

**B. RESPONSIBILITY:**

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

**C. DEFINITIONS:**

1. PBS: Phosphate Buffered Saline
2. AP: Acid Phosphatase

**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. Acid Phosphatase Reagent
    - aa.  $\alpha$ -naphthyl phosphate substrate solution
    - bb. Fast Blue B color solution
  - b. Controls: known 1:10 semen stain and blank filter paper
  - c. PBS
  - d. Cotton swabs or spot plates
2. Procedure:
  - a. Test a positive control and PBS reagent/filter paper blank with the following procedure (steps 2.b. – 2.e.) prior to the question sample.
    - aa. If controls yield the appropriate results then test the questioned sample. Record the results on the appropriate Quality Record Worksheet.
    - bb. If controls do not yield the appropriate results, review the procedure and retest the controls prior to the question samples.
    - cc. If necessary, the reagent may be retested with the controls within the workday.

- D. 2. b. Remove and test a portion of the questioned stain or area.
  - c. Add one drop of  $\alpha$ -naphthyl phosphate substrate reagent to the sample. Wait 10 seconds.
  - d. Add one drop of Fast Blue B color reagent to the  $\alpha$ -naphthyl phosphate reagent and sample.
  - e. Observe any color change within 15 seconds.
  - f. Discard any unused reagent daily.
3. Results:
- a. *Positive*: The development of a purple or pink color within 10-15 seconds indicates a positive result and detects the presence of acid phosphatase activity.
  - b. *Negative*: No color change indicates a negative result and no acid phosphatase activity is detected.
  - c. *Inconclusive*. No discernible color change.
  - d. Record the results on the appropriate Quality Record Worksheet.

**E. REFERENCES:**

1. Blake, E.T. and G.F. Sensabaugh: "Genetic markers In Human Semen: A Review". Journal of Forensic Sciences, Vol. 21, 784-796, 1976.
2. Gaensslen, R. E. , Sourcebook In Forensic Serology, Immunology, and Biochemistry , U.S. Government Printing Office, Washington D.C., 1983.
3. Metropolitan Police Forensic Science Laboratory. Biology Methods Manual. 1978, pp.3-17 to 3-20.