Document Title: Screening Test for Semen
Controlled: Yes, with red stamp present
Controlled By: Quality Manager

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. sdH_2O: Sterile distilled water
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 (SOP-FB-25.D)
      aa. α-naphthyl phosphate substrate solution
      bb. Fast Blue B color solution
   b. Controls: positive (known 1:10 semen stain) and negative (blank filter paper)
   c. sdH_2O
   d. Cotton swabs or spot plates

2. Procedure:
   a. Test a positive control and a negative control (blank filter paper) with sdH_2O according to the following procedure (steps 2.b. – 2.e.) prior to the questioned sample.

      aa. If controls yield the appropriate results, record on the appropriate Quality Record Worksheet and test the questioned samples.

      bb. If controls do not yield the appropriate results, review the procedure and retest the controls prior to beginning analysis on casework samples. If the controls still do not yield the appropriate results, then determine the root cause and correct.

      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 α-naphthyl phosphate substrate reagent to the sample. Wait 10 seconds.

d. Add one drop of Fast Blue B color reagent to the α-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 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 distinguishable purple or pink color change.

   d. Record the results on the appropriate Quality Record Worksheet. Note: The reason a result is determined to be inconclusive must also be recorded.

4. Record reagent used on the General Reagent Sheet (FBQR-09).

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.