EXTRACTION OF SAMPLES FOR SEMEN

13.1 PURPOSE

13.1.1: To remove the sample from the substrate and prepare the sample for subsequent testing.
13.1.2: To quality control new RSID™-Universal Buffer.

13.2 RESPONSIBILITY

13.2.1: Forensic Science Examiners (however titled) from the Division of Scientific Services who have been trained in the discipline of semen screening and in the discipline of extracting samples for semen according to FB SOP-26 (Training Manual and Checklist).
13.2.2: Forensic Science Examiners in the Forensic Biology Unit. Ordering information is maintained in a log book in the Forensic Biology Section. New chemicals and reagents are purchased according to GL-6 (Purchasing). For additional information, refer to the Biological Inventory (Appendix 3) in the FB folder on the shared drive.

13.3 SAFETY

Use appropriate measures for the proper handling of biohazardous material according to GL-2 (Safety Manual) and the Safety Data Sheets.

13.4 DEFINITIONS

RSID™: Rapid Stain Identification

13.5 PROCEDURE

Samples will be extracted at the discretion of the examiner with input from the Unit Lead(s) when applicable, based on the submitting agency requests, case information and the condition of the evidence.

13.5.1: Materials

A. RSID™-Universal Buffer
B. Micropipette and tips
C. Centrifuge tubes and spin baskets
D. Shaker
E. Centrifuge

13.5.2: Procedure

A. Record the buffer lot number used on the General Reagent Sheet (FBQR-09).
Note: See section 13.6.2 for running a buffer blank prior to sample extraction.

B. If the sample to be tested is in a liquid form (ie. suspected semen or urine*/vomit suspected to contain semen), then make a stain, air dry and proceed to the step below.

*For making a stain of urine, refer to 17.5.2.B in FB SOP-17 (Rapid Immunoassay Test for Urine).

C. Add 350µl of RSID™-Universal Buffer to a portion of the questioned sample in a centrifuge tube. For very limited sized stains, add a volume of 230µl. Agitate to ensure sample is submerged.

D. Extract for approximately two (2) hours on a shaker at room temperature.

E. Place the sample in a spin basket, return to tube and centrifuge for approximately ten (10) minutes. The centrifuge will be set at approximately 13,000 rpm.

F. Subsequent testing will be conducted on the extract as necessary:
   a. Test the pellet portion of the extract for the presence of spermatozoa according to FB SOP-14 (Identification of Spermatozoa).
   b. Test the supernatant portion of the extract for the presence of p30 according to FB SOP-15 (Rapid Immunoassay Test for Semen).
   c. Test the supernatant portion of the extract for the presence of amylase according to FB SOP-16 (Test for Amylase).

13.6 QC PROCEDURE

Manufacturer's expiration dates with only month and year indicated (i.e. 04/2014) expire the last day of the month noted.

13.6.1: RSID™-Universal Buffer

A. Test the new lot before use according to FB SOP-15 (Rapid Immunoassay Test for Semen), FB SOP-16 (Test for Amylase) and the RSID™-Universal Buffer Reagent Log Sheet. Record the required information.

B. If the appropriate results are not obtained, review the procedure and repeat the test. If the reagent still does not yield the appropriate results, then inform the Unit Lead to try to determine the root cause.

C. If the lot is acceptable for use, record the date received, date opened and examiner's initials on each bottle. Store according to manufacturer's instructions.

   1. The lot is acceptable for semen testing when a positive result for p30 is obtained with the semen control and a negative result for p30 is obtained with the blank filter/negative control.

2. The lot is acceptable for amylase testing when a positive result for amylase is obtained with the saliva control and a negative result for amylase is obtained with the blank filter/negative control.

D. Discard according to the manufacturer's expiration date or according to 21.4.3.E in FB SOP-21 (General Chemical and Reagent QC).

13.6.2: Running a Buffer Blank

A. Buffer will be tested prior to use with questioned samples on a weekly basis by adding approximately 200µl (~6-7 drops with the enclosed dropper) directly to the ABAcard® p30 test device according to FB SOP-15 (Rapid Immunoassay Test for Semen). See steps D, E and F in section 15.5.2.

B. Record the results on the Buffer Log Sheet (see section 15.5.3 of FB SOP-15).

A second qualified examiner will observe and confirm the result and initial the Buffer Log sheet.

C. Notify the Unit Lead if the expected results are not obtained, remove from service and replace.

D. If used less frequently, test buffer prior to being used with case samples.

13.7 REFERENCES

A. Independent Forensics, RSID™-Universal Buffer Technical Information and Protocol sheet.
B. Connecticut State Forensic Science Laboratory, RSID™-Universal Buffer Internal Validation, 2011.
C. GL-2 (Safety Manual)
D. GL-6 (Purchasing)
E. Safety Data Sheets