Document Title: Preparing Body Fluid Standards
Controlled: Yes, with red stamp present
Controlled By: Quality Manager

Prepared By: _____ Date: _____

Approved By: _____ Date: _____

A. PURPOSE:

To prepare body fluid standards for the purpose of maintaining quality control of reagents.

B. RESPONSIBILITY:

Forensic Science Examiners 1 and 2 in the Forensic Biology Section.

C. SAFETY:

Use appropriate measures for the proper handling of biohazardous materials according to the SOP-GL-2 (Safety Manual).

D. DEFINITIONS:

1. PTT: Purple Top Tube
2. RTT: Red Top Tube
2. KM: Kastle Meyer Test
3. AP: Acid Phosphatase
4. ALS: Alternate Light Source
5. RSID: Rapid Stain Identification
6. ABAcard: Rapid Immunoassay
7. PBS: Phosphate Buffered Saline

E. PROCEDURE:

1. Materials
    a. Body fluid samples
    b. PBS
    c. Distilled water (dH_2O)
    d. Cloth swatches (white and dark/black)
    e. Filter paper
    f. Swabs
    g. Glass slides
    h. Coin envelopes
    i. Micropipet and tips
    j. Microcentrifuge tubes or test tubes

E. 2. Procedure:

The following are stored in the freezer and replaced as needed:

Semen

a. For the preparation of semen standards:
   aa. Aliquot 250µl volumes of neat semen into microcentrifuge tubes labeled with the sample-type.

   bb. Store in a zip lock bag labeled with the sample-type, source (if available) and/or lot # (date of collection) and examiner's initials. Note on the label if the sample is aspermic.

b. For Christmas Tree Stain:
   aa. Make a 1:500 dilution of thawed neat semen (spermic) in dH_2O and aliquot 50µl volumes into microcentrifuge tubes labeled with the sample-type. Re-freeze remaining neat semen aliquot.

   bb. Store in a zip lock bag labeled with the sample-type, date/source of neat collection, lot # (date of preparation) and examiner's initials.

c. For p30 Ouchterlony and AP standards:
   aa. Make a 1:10 dilution of thawed neat semen in dH_2O and aliquot 50µl volumes into microcentrifuge tubes labeled with the sample-type. Re-freeze remaining neat semen aliquot.

   bb. Store in a zip lock bag labeled with the sample-type, date/source of neat collection, lot # (date of preparation) and examiner's initials.

Fecal swabs (for AP, p30 ABAcard® and Urobilinogen):

a. Collect fecal material on swabs and dry overnight in hood.

b. Re-package the swabs in the sleeves that they were removed from and label with the sample-type, source (if available), lot # (date of collection) and examiner's initials.

Breast milk (for AP and p30 ABAcard®):

a. Store liquid breast milk in the freezer. Label with the sample-type, source (if available), lot # (date of collection) and examiner's initials.

b. Thaw as needed and make a stain of the breast milk sample on filter paper. Re-freeze remaining sample.

c. Dry overnight in hood and place into a coin envelope labeled with the sample-type, date/source of collection, lot # (date of preparation) and examiner's initials.

E. 2. Acid phosphatase standards:

a. Vaginal swabs:
   aa. Collect semen free vaginal samples (minimum of five days post coital) on swabs.

bb. Dry overnight in hood and re-package the swabs in the sleeves from which they were removed.

b. Vaginal/semen mixed swabs:

aa. Add 100µl of thawed, 1:10 semen to each pre-made vaginal swab *or* collect post coital (~ 24 hours) vaginal/semen mixed swabs.

bb. Alternative: make a 1:10 dilution of thawed, neat semen in dH_2O. Re-freeze remaining neat semen aliquot.

cc. Dry overnight in hood and re-package the swabs in the sleeves from which they were removed.

c. Semen:

aa. Make a stain on filter paper with 1:10 semen.

bb. Dry overnight in hood and place into a coin envelope.

d. Oral swabs:

aa. Collect oral sample on swabs.

bb. Dry overnight in hood and re-package the swabs in the sleeves from which they were removed

e. Urine Stain:

aa. Saturate filter paper with urine.

bb. Dry overnight in hood and place into a coin envelope.

f. Serum:

aa. Collect a RTT of blood, centrifuge or store upright to allow serum to separate.

bb. Draw off serum and make a stain on a cloth swatch or filter paper.

cc. Dry overnight in hood and place into a coin envelope.

g. Fecal swabs: described on the previous page

h. Breast milk: described on the previous page

E. 2. i. Negative control: Use blank swabs, filter papers or cloth swatches as needed. Place into coin envelopes.

j. Label each acid phosphatase standard with the sample-type, source (if available), lot # (date of collection/preparation) and examiner's initials. Store together in a manila envelope labeled as 'AP' Standards.

Animal standards:

a. Collect blood samples from animal sources on cloth swatches or filter paper and dry overnight in a designated area.

Place into coin envelopes labeled with the sample-type, lot # (date of collection) and examiner's initials.

b. Commercially available animal sera may be used as positive controls for the corresponding anti-sera. Aliquot 50µl volumes into microcentrifuge tubes labeled with the sample-type.

Store in zip lock bags labeled with the sample-type, lot #, date received and examiner's initials.

The following are maintained at room temperature and replaced annually:

Blood

a. For KM, o-Tolidine, Takayama, Ouchterlony, RSID™-Blood and HemaTrace®, crime scene kit:

aa. Collect one (1) PTT of blood and make stains on filter papers.

Refrigerate any remaining blood in the PTT labeled with the sample-type, source (if available), lot # (date of collection) and examiner's initials. Replace as needed.

bb. Dry overnight in a designated area and cut into thirds.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the following sections: Forensic Biology, DNA, Trace and Chemistry (examiners and crime scene kit).

b. For Collodion and Luminol spray reagents:

aa. Make a 1:100 dilution of blood from the PTT, in PBS.

E. 2. b. bb. Saturate a filter paper with the diluted blood and dry overnight in a designated area.

cc. Place into a coin envelope labeled with the sample-type, Lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology Section.

c. For alternate light sources:

aa. Make blood stains approximately 1" in diameter on black or dark cloth swatches, ensuring that unstained substrate remains around the stain.

bb. Dry overnight in a designated area.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology Section.

d. For Latent Print Blood Enhancement Reagents:

aa. Label glass slides with the sample-type and lot # (date of preparation).

bb. Make fingerprint-type bloodstains from the PTT on the slides.

cc. Dry overnight in a designated area.

dd. Place into a slide box with a divider rack, separating each slide.

ee. Label the box with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

ff. Distribute to the Latent Print Section.

Semen

a. For AP, RSID™-Semen and p30 ABAcard®:

aa. Make a 1:10 dilution of thawed, neat semen in dH_2O. Re-freeze remaining neat semen aliquot.

bb. Saturate each filter paper with approximately1ml of diluted semen. (set aside extra).

cc. Dry overnight in hood and cut into halves.

E. 2. a dd. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

ee. Distribute to the Forensic Biology Section (examiners).

b. For alternate light sources and crime scene kit:

aa. Make separate stains approximately 1" in diameter on filter paper with the remaining 1:10 semen, ensuring that unstained substrate remains around each.

bb. Dry overnight in hood and cut out stains leaving unstained substrate around each.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology and DNA Sections.

Saliva

a. For Phadebas®:

aa. Saturate filter papers with saliva.

bb. Dry overnight in hood and cut into halves.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology Section (examiners).

b. For alternate light sources:

aa. Make separate saliva stains approximately 1" in diameter on filter paper, ensuring that unstained substrate remains around each.

bb. Dry overnight in hood and cut out stains leaving unstained substrate around each.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology and DNA Sections.

Urine

a. For Jaffe and p30 ABAcard®:

E. 2. a. aa. Saturate filter papers with female urine.

bb. Dry overnight in hood and cut into halves.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology Section (examiners).

b. For alternate light sources:

aa. Make separate urine stains approximately 1" in diameter on filter paper, ensuring that unstained substrate remains around each.

bb. Dry overnight in hood and cut out stains leaving unstained substrate around each.

cc. Place each into a coin envelope labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

dd. Distribute to the Forensic Biology and DNA Sections.

Negative controls:

a. Place blank filter paper into coin envelopes labeled with the sample-type, lot # (date of preparation), expiration date and examiner's initials.

b. Distribute to the following sections: Forensic Biology, DNA, Trace and Chemistry (examiners).

The following is stored at room temperature and replaced as needed:

Sperm Hy-liter control swabs:

a. Add 25µl of thawed, neat semen (spermic) to each unstained swab and dry overnight in hood. Re-freeze remaining semen aliquot.

b. Collect buccal samples on swabs and dry overnight in hood.

c. Package the swabs in separate coin envelopes and label with the sample-type, lot # (date of preparation) and examiner's initials.

3. For all standards prepared, record the appropriate information on the Body Fluid Standard Reagent Log Sheet.

F. REFERENCES:

SOP-GL-2 (Safety Manual).